

Scientific Research and Innovation Services

Assay Repertoire

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Clinical cytokine panels (UKAS accredited)

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Cytokine Panel CY19 - Interleukin 1 beta (IL-1 β), Interleukin 6 (IL-6), Interleukin 8 (IL-8) & Tumour necrosis factor alpha (TNF- α).	CRD0238	Blood (serum)	SST	500uL	Allow samples to clot for 30 - 60 minutes at room temperature or up to 8 hours at 4°C. Centrifugation for 15 min at 1000xg. Aliquot and store at -80°C.	Centrifuge sample on site and send to KCH with a cool pack within 2 hours OR Separate serum into 3 aliquots, store frozen at -20°C and courier frozen on dry ice within 24 hours	Protein Simple Ella	IL-1b: 0.00 - 0.66 IL-6: 0.00 - 3.26 IL-8: 2.20 - 21.87 TNFa: <u>6.10 - 13.58</u>	pg/mL	Batches of 29	1 week
Cytokine Panel CY20 - Interferon gamma (IFN- γ), Interleukin 10 (IL-10), Interleukin 17A (IL-17A) & Interleukin 2 receptor alpha chain (IL-2RA).	CRD0239							IFN- γ : 0.00 - 1.76 IL-10: 0.96 - 3.20 IL-17: 0.00 - 2.10 IL-2RA: 424.00 - 1844.00			
Cytokine Panel CY21 - Chemokine ligand 2/monocyte chemoattractant protein 1 (CCL2/MCP-1), Granulocyte-macrophage colony-stimulating factor (GM-CSF), Interleukin 15 (IL-15) & Vascular endothelial growth factor A (VEGF-A)	CRD0240							CCL2/MCP-1: 63.98 - 514.36 GM-CSF: 0.00 - 6.32 IL-15: 0.00 - 5.41 VEGF-A: <u>0.00 - 450.64</u>		Batches of 11	1 week
Cytokine Panel CY23 - Interleukin 5 (IL-5) & Interleukin 13 (IL-13)	CRD0242							IL-5: 0.00-3.55 IL-13: 0.00 – 80.1			2 weeks

Research-only cytokine panels

Cytokine Panel CY24 - Interferon gamma (IFN- γ), Interleukin 10 (IL-10), Interleukin 5 (IL-5), Interleukin 6 (IL-6) & Tumour necrosis factor alpha (TNF- α).	CRD0243	Blood (serum)	SST	500uL	Allow samples to clot for 30 - 60 minutes at room temperature or up to 8 hours at 4°C. Centrifugation for 15 min at 1000xg. Aliquot and store at -80°C.	Centrifuge sample on site and send to KCH with a cool pack within 2 hours OR Separate serum into 3 aliquots, store frozen at -20°C and courier frozen on dry ice within 24 hours	Protein Simple Ella	IFN- γ : 0.00-1.76 IL-10: 0.96 - 3.20 IL-5: 0.00-3.55 IL-6: 0.00 - 3.26 TNFa: <u>6.10 - 13.58</u>	pg/mL	On request	N/A
Cytokine Panel CY25 - Interleukin-1 receptor antagonist (IL-1RA), Interleukin-1 beta (IL-1 β), Interleukin 6 (IL-6) & Granulocyte-macrophage colony-stimulating factor (GM-CSF)	CRD0296							IL-1RA: 225.00-682.00 IL-1b: 0.00 - 0.66 IL-6: 0.00 - 3.26 GM-CSF: <u>0.00 - 6.32</u>			
CY26 Cytokine Panel - Interleukin-5 (IL-5), Interleukin-13 (IL-13), Interleukin-17 (IL-17), Interleukin-22 (IL-22), Interferon gamma (IFN- γ), Granulocyte-macrophage colony-stimulating factor (GM-CSF) & Tumour necrosis factor alpha (TNF- α)	CRD0303							IL-5: 0.00-3.55 IL-13: 0.00 – 80.10 IL-17: 0.00 - 2.10 IL-22: 0.0-30.70 IFN- γ : 0.00-1.76 GM-CSF: 0.0 - 6.32 TNFa: <u>6.10 - 13.58</u>			
CY27 Cytokine Panel (IL-2, IL-7)	CRD0308							TBC			

Other research tests

NB: May require validation, not always immediately available, this list is not exhaustive, please contact us to enquire about any other test you require

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
1,5-anhydroglucitol	1237100655	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	2-8°C for 7 days -20°C for longer storage, samples may be freeze thawed up to three times.	Glycomark kit	Males: 10.7-32.0 Females: 6.8-29.3 All: 9.7-31.4	ug/mL	On request	N/A
17-OH-Progesterone	N/A	Blood (serum or plasma)	SST or EDTA plasma	500uL	The usual precautions for venipuncture should be observed. It is important to preserve the chemical integrity of a blood specimen from the moment it is collected until it is assayed. Do not use grossly hemolytic, icteric or grossly lipemic	2-8°C for 7 days -20°C (Aliquots) for 3 months Keep away from heat or direct sunlight. Avoid repeated freeze-thaw cycles.	Werfen DS2 (IBL kit)	Females: Follicular phase - 0.3-1.0 Luteal phase - 0.2-2.9 Post ACTH stim. -	ng/mL	On request	N/A
25-hydroxyvitamin D2	HAE0142	See: https://www.synnovis.co.uk/our-tests/25-oh-vitamin-d								On request	N/A
25-hydroxyvitamin D3	HAE0143										
25-hydroxyvitamin D (D2+D3) - Total	HAE0261										
a1-acid glycoprotein	1237100855	Blood (serum or plasma) urine	SST, EDTA plasma, heparin plasma or urine	500uL	Serum - allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection. Urine - Aseptically collect the first urine of	Aliquot serum/plasma/urine and store samples at ≤ -20 °C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnie kit)	Serum: 301-1136 Plasma: 322-1143 Urine: 68-19100	ug/mL (serum/plasma) ng/mL (urine)	On request	N/A
Activin A	1237100852	Blood (serum or plasma)	SST or EDTA plasma	300uL	Serum - Allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Aliquot serum/plasma/urine and store samples at ≤ -20 °C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnie kit)	Serum: 142-753 Plasma: 115-665	pg/mL	On request	N/A
Adiponectin	CRD0005	Blood (serum or plasma)	SST or EDTA or heparin Plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Aliquot serum/plasma and store samples at ≤ -20 °C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 5344-14,425 EDTA plasma: 3051-12,506 Heparin plasma: 2373-15,202	pg/mL	On request	N/A
Adrenomedullin	1237100853	Blood (serum or plasma)	SST or EDTA or heparin Plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 4°C before centrifugation for 15 min at 1000xg at 2~8°C. Blood collection tubes	-20°C (≤1 month) or -80°C (≤3 months). Avoid repeated freeze-thaw cycles. Hemolysed samples are not suitable	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Aflibercept	1237100659	Blood (serum or plasma)	SST or EDTA or heparin plasma	500uL	<p>Serum: Allow samples to clot for 2 hours at room temperature or overnight at 4°C before centrifugation for 15 min at 1000×g at 2~8°C. Blood collection tubes should be disposable and be non endotoxin.</p> <p>Plasma: Collect plasma using EDTA or heparin as an anticoagulant. Centrifuge samples for 15 min at 1000×g at 2~8°C within 30 min of collection.</p> <p>Do not use grossly hemolytic, icteric or grossly lipemic specimens. Samples appearing turbid should be centrifuged before testing.</p>	Storage: 2-8°C, Stability: 3d	Werfen DS2 (Eagle Bio kit)	-	ng/mL	On request	N/A
a-klotho	1237100660	Blood (serum or plasma) or urine	SST, EDTA plasma or urine	500uL	Test samples should be measured soon after collection. Urine samples are less stable than serum, therefore freeze urine samples rapidly after collection and avoid refreezing.	Store frozen, avoid repeated freeze-thaw cycles.	Werfen DS2 (IBL kit)	-	pg/mL	On request	N/A
alpha 2-macroglobulin	1237100850	Blood (serum or plasma)	SST or EDTA plasma	500uL	<p>Serum - allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g.</p> <p>Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.</p>	-20°C or -80°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnie kit)	-	pg/mL	On request	N/A
Amylin	1237100856	Blood (serum or plasma)	SST or EDTA plasma	500uL	<p>Serum - allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g.</p> <p>Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.</p>	-20°C (≤1 month) or -80°C (≤3 months)	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Amyloid b protein	1237100661	CSF	Universal container	500uL	Use local CSF collection protocol	Freeze sample at ≤ -70 °C. within one hour of collection	Werfen DS2 (R&D Systems kit)	ND-711	pg/mL	On request	N/A
Angiopoietin-2	CRD0139	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	<p>Serum - allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g.</p> <p>Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.</p>	-20°C (≤1 month) or -80°C (≤3 months)	Protein Simple Ella	-	pg/mL	On request	N/A

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Angiotensin 1	1237100662	Serum	SST	1000uL	Allow samples to clot for 2 hours at room temperature or overnight at 4°C. Centrifugation for 15 min at 1000xg at 2-8°C. Collect the supernatant to carry out the assay. Use nonendotoxin blood	Frozen (-80°C). Avoid repeated freeze-thaw cycles.	Sandwich ELISA	-	pg/mL	On request	N/A
Angiotensin 1-7	1237100857	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	-20°C (stability not yet evaluated). Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnne kit)	-	pg/mL	On request	N/A
Angiotensin 1-7 (AG17)	?	Serum	SST	300uL	Allow samples to clot for 2 hours at room temperature or overnight at 4°C. Centrifugation for 15 min at 1000xg at 2-8°C. Collect the supernatant to carry out the assay. Use nonendotoxin blood	4°C - stable for 7 days. Frozen (-20°C) - stable for ≤1 month. Frozen (-80°C) - stable for ≤3 months. Avoid repeated freeze-thaw cycles.	Competitive ELISA	-	pg/mL	On request	N/A
Angiotensin 1-9	1237100858	Blood (serum or plasma)	SST EDTA plasma	500uL	Serum - allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	-20°C (stability not yet evaluated). Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnne kit)	-	pg/mL	On request	N/A
Angiotensin 1-9 (AG19)	?	Blood (serum)	SST	1000uL	Allow samples to clot for 2 hours at room temperature or overnight at 4°C. Centrifugation for 15 min at 1000xg at 2-8°C. Collect the supernatant to carry out the assay. Use nonendotoxin blood collection tubes.	Frozen (-80°C). Avoid repeated freeze-thaw cycles.	Competitive ELISA	-	pg/mL	On request	N/A
Angiotensin 2 (ANG2)	1237100663	Blood (serum)	SST	1000uL	Allow samples to clot for 2 hours at room temperature or overnight at 4°C. Centrifugation for 15 min at 1000xg at 2-8°C. Collect the supernatant to carry out the assay. Use nonendotoxin blood	Frozen (-80°C). Avoid repeated freeze-thaw cycles.	Competitive ELISA	-	pg/mL	On request	N/A
Angiotensin converting enzyme 2	1237100851	Blood (serum or plasma)	SST EDTA plasma	500uL	Allow samples to clot for 2 hours at room temperature or overnight at 4°C. Centrifugation for 15 min at 1000xg at 2-8°C. Collect the supernatant to carry out	Frozen (-80°C). Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnne kit)	-	pg/mL	On request	N/A
Angiotensin I Converting Enzyme (ACE)	?	Blood (serum)	SST	300uL	Allow samples to clot for 2 hours at room temperature or overnight at 4°C. Centrifugation for 15 min at 1000xg at 2-8°C. Collect the supernatant to carry out the assay. Use nonendotoxin blood	4°C - stable for 4 weeks. Frozen (-80°C) - stable for ≤3 months. Avoid repeated freeze-thaw cycles.	Immunoassay	-	pg/mL	On request	N/A

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Angiotensin I Converting Enzyme 2 (ACE2)	?	Blood (serum)	SST	300uL	Allow samples to clot for 2 hours at room temperature or overnight at 4°C. Centrifugation for 15 min at 1000xg at 2-8°C.	4°C - stable for 7 days. Frozen (-20°C) - stable for ≤1 month. Frozen (-80°C) - stable for ≤3 months.	Sandwich ELISA	-	pg/mL	On request	N/A
Anti Mullerian hormone	1237100946	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - allow samples to clot for 1 hour or overnight at 2-8°C, centrifuge for 20 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection. Use nonendotoxin blood collection tubes, haemolysed/lipaemic samples not suitable.	4°C - stable for 7 days. Frozen (-20°C) - stable for ≤1 month. Frozen (-80°C) - stable for ≤3 months.	Werfen DS2 (Biotechnne kit)	-	ng/mL	On request	N/A
Apelin Total	1237100863	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 2-8°C. Centrifugation for 15 min at 1000xg at 2-8°C. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	4°C - stable for 7 days. Frozen (-20°C) - stable for ≤1 month. Frozen (-80°C) - stable for ≤3 months.	Werfen DS2 (Biotechnne kit)	-	pg/mL	On request	N/A
Apelin-13	1237100860	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 2-8°C. Centrifugation for 15 min at 1000xg at 2-8°C.	4°C - stable for 7 days. Frozen (-20°C) - stable for ≤1 month. Frozen (-80°C) - stable for ≤3 months.	Werfen DS2 (Biotechnne kit)	-	pg/mL	On request	N/A
Apelin-17	1237100859	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 2-8°C. Centrifugation for 15 min at 1000xg at 2-8°C. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	4°C - stable for 7 days. Frozen (-20°C) - stable for ≤1 month. Frozen (-80°C) - stable for ≤3 months.	Werfen DS2 (Biotechnne kit)	-	nmol/L	On request	N/A
Apelin-36	1237100861	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 2-8°C. Centrifugation for 15 min at 1000xg at 2-8°C. Plasma - Centrifuge for 15 minutes	4°C - stable for 7 days. Frozen (-20°C) - stable for ≤1 month. Frozen (-80°C) - stable for ≤3 months.	Werfen DS2 (Biotechnne kit)	-	U/ml	On request	N/A
Apolipoprotein A1	1237100844	Blood (serum or plasma) or urine	SST, EDTA plasma, heparin plasma or urine	500uL	Serum - allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤ -20 °C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnne kit)	Serum: 1.48-3.20 EDTA plasma: 1.40-2.87 Heparin plasma: 1.19-2.97	mg/mL	On request	N/A

Apolipoprotein B	12371008 62	Blood (serum or plasma)	SST, EDTA plasma or Heparin Plasma	500uL	Serum - allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤ -20 °C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnne kit)	Serum: 189-991 EDTA plasma: 189-985 Heparin plasma: 195-1033	ug/mL	On request	N/A
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Apolipoprotein E	1237100665	Blood (serum or plasma)	SST, EDTA plasma, heparin plasma or CSF	500uL	Serum - allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection. CSF: Centrifuge samples at 3000 x g for 10	Serum/plasma: store at -20°C or below for up to 3 months. CSF: store at -80°C for up to 3 months. Avoid repeated freeze-thaw	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Beta Endorphin	1237100668	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 4°C before centrifugation for 15 min at 1000xg at 2~8°C. Blood collection tubes should be non-endotoxin.	Analyse within 7 days when stored at 4°C, or aliquotte and store at -20°C (≤1 month) or -80°C (≤3 months). Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Beta-Defensin 4	1237100866	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum: Allow samples to clot for 30 minutes. Centrifuge at 1000 x g for 15 minutes. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	24 hours at 4°C For a longer periods store at - 20°C to -80°C.	Werfen DS2 (Biotechnie kit)	-	pg/mL	On request	N/A
Beta-nerve growth factor	CRD0142	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: ND-4.08 EDTA plasma: ND-3.74 Heparin plasma: ND-3.94	pg/mL	On request	N/A
Bone-specific alkaline phosphatase	1237100670	Blood (serum)	SST	500uL	Allow the blood to clot and separate the serum by centrifugation. Haemolysed samples unsuitable.	5 days at 2°C to 8°C 12 months at ≤ -40°C 36 months ≤ -80°C Do not subject samples to more than 3 freeze/thaw cycles.	Werfen DS2 (QUIDEL kit)	Female 25-44 yrs (premenopausal) 11.6 - 29.6 Females ≥45 yrs (postmenopausal) 14.2-42.7 Males ≥25 yrs 15.0-41.3	U/L	On request	N/A
Brain-derived neurotrophic factor	CRD0018	Blood (serum or plasma)	SST, platelet poor EDTA plasma or platelet poor	500uL	Serum: Allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Assay immediately or aliquot and store at ≤ -20 °C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 21,105-55,408 PP EDTA plasma: 44.3-4516 PP Heparin plasma: 352-3455	pg/mL	On request	N/A
Calcitonin gene related peptide	1237100872	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤ -20 °C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnie kit)	-	ng/mL	On request	N/A
Carbonic anhydrase II	1237100868	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	≤-20 °C for up to three months. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A

Carbonic anhydrase III	12371008 69	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	≤-20 °C for up to three months. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Novus kit)	-	U/L	On request	N/A
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Carbonic anhydrase IX	1237100870	Blood (serum or plasma) or urine	SST, EDTA plasma, heparin plasma, citrate plasma or urine	500uL	Serum: Allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	≤-20 °C for up to three months. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Cardiotrophin 1	1237100959	Blood (serum or plasma)	SST or EDTA plasma	500uL	Plasma: Centrifuge samples at 3000 x g for 10 minutes. Serum: After clot formation, centrifuge samples at 3000 x g for 10 minutes.	≤-20 °C for up to three months. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Novus kit)	-	nmol/L	On request	N/A
Cartilage Oligomeric Matrix Protein	CRD0020	Blood (serum or plasma)	SST serum, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Assay immediately or aliquot and store at ≤ -20 °C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 72,611-328,847 EDTA plasma: 108,529-331,703 Heparin plasma:	pg/mL	On request	N/A
Chemokine Ligand 17 (CCL17-TARC)	CRD0299	Blood (serum or plasma)	SST or EDTA plasma	500uL	Primary sample collection tube should be centrifuged within 1 hour from venepuncture. Serum/plasma should be aliquoted into a minimum of 2 cryovials.	Store frozen at -80C. Transport should be on dry ice to avoid specimen thaw.	Protein Simple Ella	-	pg/mL	On request	N/A
Cholecystokinin	1237100674	Blood (serum or plasma)	Plain serum (no additive) SST or EDTA	500uL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 4°C before centrifugation for 15 min at 1000xg at 2~8°C. Blood collection tubes should be non-endotoxin.	Assay immediately or aliquot and store at ≤ -20 °C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Novus kit)	-	ng/mL	On request	N/A
Circulating immune complex	1237100873	Blood (serum or plasma)	SST or EDTA plasma	500uL	All specimens should be collected aseptically and prepared using standard techniques for clinical laboratory testing. Do not heat-inactivate the specimens.	2°-8°C for up to 7 days -20°C or below for longer periods	Werfen DS2 (Novus kit)	<4.0	ug Eq/mL	On request	N/A
Clusterin	CRD0149	Blood (serum or plasma) or urine	SST serum, EDTA plasma, heparin plasma or	500uL	Serum: Allow to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store serum/plasma samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Urine: store at ≤-80°C	Protein Simple Ella	Serum: 178-235 EDTA: 187-272 Heparin: 147-238 Urine: 126-552	ug/mL	On request	N/A
Colony stimulating factor 2 GMCSF	CRD0188	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Normally undetectable.	ng/mL	On request	N/A
Complement factor 3a-desArg	1237100675	Blood (serum or plasma)	SST or EDTA plasma	500uL	-	-	Werfen DS2 (Quidel kit)	-	ng/mL	On request	N/A

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Complement factor B b	1237100676	Blood (serum or plasma) or urine	SST, EDTA plasma or urine	500uL	-	-	Werfen DS2 (Quidel kit)	-	ng/mL	On request	N/A
Complement Factor D/Adipsin	1237100854	Blood (serum or plasma)	SST serum, EDTA plasma, heparin	500uL	Serum - Allow samples to clot for 30 minutes at room temperature centrifuge for 15 minutes at 1000 x g. store samples at ≤ -20 °C.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnie kit)	Serum: 1729-3238 EDTA: 1468-3657 Heparin: 906-2545 Urine: ND-7.32	ng/mL	On request	N/A
Corin	1237100875	Blood (serum or plasma)	SST, EDTA plasma or heparin Plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnie kit)	Serum: 578-3138 EDTA: 489-3032 Heparin: 568-3058	pg/mL	On request	N/A
Corticotropin releasing factor	1237100962	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 2 hours at room temperature centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Cotinine	1237100679	Blood (serum), urine or saliva	SST, urine or saliva	500uL	-	-	Werfen DS2 (Novus kit)	-	ng/mL	On request	N/A
C-Peptide - Clinical Trials	1237101088	Blood (serum or plasma)	SST or heparin plasma	500uL	Serum - Allow samples to clot for 2 hours at room temperature centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	30 days at -80°C. Avoid multiple freeze thaw cycles.	Siemens Immulite	0.9-7.1	ng/mL	On request	N/A
Cross-linked C-telopeptide of type I collagen	1237100682	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 4°C before centrifugation for 15 min at 1000xg at 2~8°C. Blood collection tubes	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw	Werfen DS2 (Novus kit)	-	ng/mL	On request	N/A
Cytokeratin-18	1237100877	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: ND-2049 EDTA: ND-2159 Heparin: ND-2810	pg/mL	On request	N/A
Dehydroepiandrosterone	1237100683	Blood (serum)	SST	500uL	Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g.	Stable for 4 days at 2-8°C and 3 months at ≤-20°C. Do not use grossly hemolytic, icteric or lipemic specimens. Samples appearing turbid should be centrifuged. Avoid repeated freeze-thaw cycles.	Werfen DS2 (IBL International kit)	Males: 0.52 – 5.18 Females: 0.36 – 7.82	ng/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Dehydroepiandrosterone Sulphate (DHEAS)	?	Blood (serum or	SST or EDTA plasma	500uL	Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g.	Stable for 7 days at 2-8°C and 6 months at ≤-20°C. Do not use grossly hemolytic, icteric or	Werfen DS2 (IBL International	Women: 0.37 – 2.71 Men: 0.73 – 3.81	ug/mL	On request	N/A
Dickkopf related protein 1	CRD0153	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 2343-4999 EDTA: 327-1015 Heparin: 306-1035	pg/mL	On request	N/A
Endoglin/CD105	CRD0154	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 4030-6207 EDTA: 3786-6004 Heparin: 3601-5308	pg/mL	On request	N/A
Endothelin-1	CRD0157	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. store samples at ≤ -20 °C. Avoid repeated freeze-thaw cycles.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 0.92-1.58 EDTA: 0.9-1.4 Heparin: 0.78-1.48	pg/mL	On request	N/A
Eotaxin/CCL11	1237100883	Blood (serum or plasma)	SST, EDTA plasma or citrate plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnie kit)	Serum: 50-642 EDTA: 32-272 Citrate: 47-399	pg/mL	On request	N/A
Eotaxin-3/CCL26	1237100883	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 4.75-61.6 EDTA: 3.7548.5 Heparin: 38.9-222	pg/mL	On request	N/A
Epidermal growth factor	?	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Randox Investigtor	-	pg/mL	On request	N/A
Epithelial neutrophil activating peptide 78 (CXCL5/ENA-78)	CRD0156	Blood (serum or plasma)	SST, platelet poor EDTA plasma or platelet	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 469-4713 EDTA: 13.8-97.8 Heparin: 35.8-439	pg/mL	On request	N/A
E-Selectin/CD62E	CRD0214	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 6051-77637 EDTA: 11298-49085 Heparin: 9787-48946	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Estrone	1237100885	Blood (serum)	SST	300uL	Collect 4–5 mL of blood into an appropriately labelled tube and allow it to clot. Centrifuge and carefully remove the serum layer.	Room temperature: ≤3 days 2-8°C ≤7 days -20°C ≤ 1 month	Werfen DS2 (IBL kit)	Female Premenopausal: 27.1 - 230.6 Premenopausal: 1 – 10 days: 18.9-148.5 11 – 20 days:	pg/mL	On request	N/A
Fatty acid binding protein 2	CRD0161	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 509-1585 EDTA: 471-1638 Heparin: 479-1648	pg/mL	On request	N/A
Fetuin A	1237100686	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 303-671 EDTA plasma: 274-631 Heparin plasma: 285-617	ng/mL	On request	N/A
Faecal Lactoferrin	CRD0181	Stool	Stool universal	0.5g	-	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	BioVendor	-	-	On request	N/A
Fibroblast growth factor 19	CRD0034	Blood (serum or plasma)	SST EDTA plasma Heparin	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 40.8-227 EDTA Plasma: 65.8-423 Heparin Plasma:	pg/mL	On request	N/A
Fibroblast growth factor 21	CRD0035	Blood (serum or plasma)	SST EDTA plasma Heparin plasma	500µl	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: ND-914 EDTA plasma: ND-1155 Heparin plasma: ND-1012	pg/mL	On request	N/A
Fibroblast growth factor 23	CRD0036	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 48-131 EDTA: 70.6-210 Heparin: 72.4-183	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Fibronectin	12371006 90	Blood (serum or plasma) or	Blood: SST, EDTA plasma, citrated plasma or	500µl	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 0.083-0.539 EDTA: 0.116-0.601 Heparin: 0.048-0.527 Citrate:	ng/mL	On request	N/A
Follistatin-related gene protein	12371006 91	Blood (serum or plasma) Urine	Blood: SST, EDTA plasma Urine: sterile	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 3142-8554 EDTA plasma: 3329-8808 Heparin plasma: 3214-8953	pg/mL	On request	N/A
Galectin-3	CRD0039	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 3078-12,465 EDTA Plasma: 3185-8201 Heparin plasma:	pg/mL	On request	N/A
Gastric Inhibitory Polypeptide (GIP)	12371006 93	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 4°C before centrifugation for 15 min at 1000xg at 2~8°C. Blood collection tubes should be non-endotoxin.	2°-8°C for up to 7 days -20°C or below for longer periods	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Pro-gastrin releasing peptide	CRD0041	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 17.9-41.0 EDTA Plasma: 16.2-40.2 Heparin plasma: 16.3-40.2	pg/mL	On request	N/A
Gastrin releasing peptide	CRD0041	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
Ghrelin	CRD0042	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	no more than 10 IU heparin per mL of blood	-	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Ghrelin (acylated)	12371006 96	Blood (plasma)	EDTA plasma or heparin plasma	500µL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 4°C before centrifugation for 15 min at 1000xg at 2~8°C. Blood collection tubes should be non-endotoxin.	2°-8°C for up to 7 days -20°C or below for longer periods	Werfen DS2 (IBL International kit)	-	pg/mL	On request	N/A
Glucagon	12371008 45	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnne kit)	Serum: ND-224 EDTA: ND-226 Heparin: ND-221	pg/mL	On request	N/A

Glucagon-like peptide-1 (GLP-1)	1237100698	Blood (plasma)	EDTA plasma or heparin plasma	500µL	Results may vary widely in samples from fasting/non-fasting/glucose induced donors. Samples should not be taken from donors taking biotin, e.g. dietary supplements at least 48 hours prior to specimen collection. BD™ P700 Blood Collection and Preservation System must be used for sample collection	Plasma samples should be stored at 2–8°C if tested within 3 hours of collection. For long term storage store at -70°C. Aliquot samples before freezing if necessary.	Werfen DS2 (IBL International kit)	-	pmol/L	On request	N/A
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Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Glycerol	CRD0236	Blood (serum or plasma)	SST or EDTA plasma	-	-	-	-	-	umol/L	On request	N/A
Glycogen phosphorylase BB/GPB	12371008 91	Blood (serum or plasma)	SST or citrate plasma	500uL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Glycolytic pyruvate kinase isoenzyme type M2 dimer (M2PK)	?	Faeces	Sterile universal stool universal	Walnut sized formed stool	-	-	Werfen DS2 (kit)	-	U/mL	On request	N/A
Granulocyte colony stimulating factor	CRD0164	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	100uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: ND-4.98 EDTA: ND-4.60 Heparin: ND-1.90	pg/mL	On request	N/A
Growth differentiation factor 15	CRD0165	Blood (serum or plasma) or urine	SST, EDTA plasma, heparin plasma or urine	100uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. store samples at ≤ -20 °C. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 295-854 EDTA: 310-906 Heparin: 345-1024	pg/mL	On request	N/A
Growth-regulated alpha protein (CXCL1/GRO alpha)	12371008 92	Blood (serum or plasma)	SST, EDTA plasma, heparin plasma or citrate	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	24 hours at 4°C -20°C to -80°C for longer periods	Werfen DS2 (Novus kit)	-	µg Eq/mL	On request	N/A
Heart muscle creatine kinase MB (CK-MB) (mass)		Blood (serum or plasma)	SST or heparinised plasma	500uL	Allow samples to clot for 30 - 60 minutes at room temperature or up to 8 hours at 4°C. Centrifugation for 15 min at 1000xg. Aliquot and store at -20°C.	2-8 °C for 1 day or 30 days at -20 °C.	ImmuLite 2000	Males: <6.74 ng/ml Females: <4.02 ng/ml	ng/mL	On request	2 weeks
Hemopexin	12371008 94	Blood (serum or plasma)	SST, citrate plasma or urine	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	-20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	pg/mL (serum & plasma) ng/mL	On request	N/A
Hepatocyte growth factor (HGF)	CRD0168	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	-20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles	Protein Simple Ella	Serum: 944-1668 EDTA: 481-1004 Heparin: 377-885	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Hepcidin-25	CRD0048	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	-20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles	Protein Simple Ella	Serum: 1554-34,763 EDTA Plasma: 1775-44,577 Heparin Plasma: 1391-31,968	pg/mL	On request	N/A
High molecular weight adiponectin	CRD0049	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	-20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles	Protein Simple Ella	-	pg/mL	On request	N/A
iC3b fragment of C3 protein (C3B)	CRD0300	Blood (serum or plasma)	SST or EDTA plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	-20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles	Protein Simple Ella	-	pg/mL	On request	N/A
Insulin - clinical trials	1237101087	Blood (serum or plasma)	SST or heparin plasma	300uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store at -80°C. Avoid repeated freeze-thaw cycles	Siemens ImmuLite	4.4 – 26.0	uIU/mL	On request	N/A
Insulin-like growth factor binding protein 1 (IGFBP-1)	CRD0114	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	-20°C or below. Avoid repeated freeze-thaw cycles	Protein Simple Ella	Serum: 1153-33875 EDTA: 971-36429 Heparin: 943-31133	pg/mL	On request	N/A
IntercelluLar Adhesion MolecuLe 1	CRD0113	Blood (serum or plasma) or CSF	SST, EDTA plasma, heparin plasma or universal container	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Serum/plasma: -20°C or below. Avoid repeated freeze-thaw cycles Cerebrospinal Fluid: Freeze sample within one hour of collection to avoid aggregation. Store samples at ≤ -70 °C.	Protein Simple Ella	Serum: 169962-538956 EDTA: 160056-473867 Heparin: 186416-368415 CSF: 2382-9921	pg/mL	On request	N/A
Interferon-alpha	CRD0055	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	-20°C or below. Avoid repeated freeze-thaw cycles	Protein Simple Ella	Serum: ND-4.68 EDTA Plasma: ND-5.54 Heparin Plasma: ND-6.04	pg/mL	On request	N/A
Interferon-beta	CRD0056	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	-20°C or below. Avoid repeated freeze-thaw cycles	Protein Simple Ella	-	pg/mL	On request	N/A

Interferon-gamma		Blood (plasma), CSF, occuLar fluid or	EDTA plasma, universal container, syringe or	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	423.52 - 1843.81	pg/mL	On request	N/A
Interferon inducible protein- 10	CRD0054	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	-20°C or below. Avoid repeated freeze-thaw cycles	Protein Simple Ella	-	pg/mL	On request	N/A
Interleukin 1 alpha	12371007 10	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	ND	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Interleukin 1 beta	?	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	0.00 - 0.66	pg/mL	On request	N/A
Interleukin 1 beta H.Sens.	1237100841	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
Interleukin 1 receptor antagonist	CRD0058	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 225-682 EDTA: 138-348 Heparin: 137-682	pg/mL	On request	N/A
IL-1 receptor 4 ST2	CRD0051	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
IL-2 Receptor a (sIL-2Ra)	CRD0052	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	424.00-1,844.00	pg/mL	On request	N/A
Interleukin 10	CRD0059	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	0.96 - 3.20	pg/mL	On request	N/A
Interleukin 11	CRD0172	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: ND-362 EDTA: ND-329 Heparin: ND-324	pg/mL	On request	N/A
Interleukin 12	CRD0115	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: ND-1.96 EDTA: 1.28-1.76	pg/mL	On request	N/A
interleukin 12 P40	CRD0179	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A

Interleukin 12 P70	12371007 13	Blood (serum or plasma)	SST or EDTA plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: ND-1.96 EDTA: 1.28-1.76	pg/mL	On request	N/A
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Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Interleukin 13	CRD0061	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: ND-80.1 EDTA Plasma: ND-83.3 Heparin Plasma: ND-68.4	pg/mL	On request	N/A
Interleukin 15	?	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	0.0 - 5.4	pg/mL	On request	N/A
interleukin 16	CRD0173	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
Interleukin 17	CRD0062	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	ND	pg/mL	On request	N/A
Interleukin 18	CRD0123	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	ND	pg/mL	On request	N/A
Interleukin-23 (IL23)	CRD0306	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	ND	pg/mL	On request	N/A
Interleukin 1-Receptor 1	CRD0170	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 5397-36527 EDTA: 5201-36891 Heparin: 4883-37865	pg/mL	On request	N/A
Interleukin 1-Receptor 2	CRD0171	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
Interleukin 2	CRD0063	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A

Interleukin 22	CRD0174	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: ND-30.7 EDTA: ND-20.3 Heparin: ND-20.3	pg/mL	On request	N/A
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Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Interleukin 23	CRD0306	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
Interleukin 3	?	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
Interleukin 33	CRD0175	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	ND	pg/mL	On request	N/A
Interleukin 4	CRD0064	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	ND	pg/mL	On request	N/A
Interleukin 5	?	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	0.087 – 0.657	pg/mL	On request	N/A
Interleukin 6	CRD0065	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	0.00 - 3.26	pg/mL	On request	N/A
Interleukin 6 (Siemens)	12371009 01	Blood (serum)	SST	250uL	Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g.	1 day at 2–8°C or 6 months at –20°C.	Siemens ImmLite	ND - 5.9	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Interleukin 6 high sensitivity	CRD0066	Blood (serum or plasma) or urine	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 0.495-3.92 EDTA plasma: 0.351-3.48 Heparin plasma: 0.414-3.97 Urine: ND-3.48	pg/mL	On request	N/A
Interleukin 6R-a	CRD0177	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 34742-68077 EDTA: 33037-63147 Heparin: 26517-55504	pg/mL	On request	N/A
Interleukin 7	CRD0067	Blood (serum or plasma) or saliva	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 6.81-22.4 EDTA Plasma: 0.660-4.73 Heparin Plasma: 1.89-5.87	pg/mL	On request	N/A
Interleukin 8	?	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 6.7-16.2 EDTA: 3.06-5.06 Heparin: 4.64-10.7	pg/mL	On request	N/A
Interleukin 9	CRD0067	Blood (serum or plasma)	SST, EDTA plasma, citrate plasma or heparin	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store at -20°C to avoid loss of bioactive human IL-9. If samples are to be run within 24 hours, they may be stored at 2-8°C	Werfen DS2 (Novus kit)	ND	pg/mL	On request	N/A
Interleukin-18	1237100848	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
Kidney Injury Molecule 1	CRD0180	Blood (serum or plasma) or urine	SST, EDTA plasma, heparin plasma or universal	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 20.8-106 EDTA: 23.6-105 Heparin: 25.8-88.0 Urine: 328-1928	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Leptin	CRD0068	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 8914-67,394 EDTA Plasma: 7897-70,208 Heparin Plasma:	pg/mL	On request	N/A
Leptin receptor	CRD0182	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Frozen (-80°C) - stable for 18 months. Samples can be freeze thawed up to 5 times.	Protein Simple Ella	-	pg/mL	On request	N/A
Lipoprotein a	1237100722	Blood (serum or plasma)	SST or citrate plasma	500µL	Serum - Allow samples to clot , centrifuge for 10 minutes at 3000 x g Plasma - Centrifuge for 10 minutes at 3000 x g	Store samples at ≤-20°C - strable for three months. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Novus kit)	60-180	µg/ml	On request	N/A
L-Selectin/CD62L	1237100940	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (Biotechnne kit)	-	pg/mL	On request	N/A
M2PK	CRD0070	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Frozen (-80°C) - stable for 18 months. Samples can be freeze thawed up to 5 times.	Protein Simple Ella	-	pg/mL	On request	N/A
Macrophage Inflammatory protein 1a		Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
Macrophage Inflammatory protein 1b		Blood (serum or plasma) or urine	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection. Urine: Aseptically collect the first urine of the day (mid stream), voided directly into a sterile container. Centrifuge to remove particulate matter	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 295-854 EDTA: 310-906 Heparin: 345-1024 Urine: 623-21960	pg/mL	On request	N/A
Macrophage inflammatory protein 2	CRD0187	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 39.9-149 EDTA: 11.4-58.4 Heparin: 9.4-57.9	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Macrophage migration inhibitory factor	CRD0185	Blood (serum or plasma)	SST, platelet poor EDTA plasma or platelet poor heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 16536-34567 EDTA: 19580-41305 Heparin: 9379-29723	pg/mL	On request	N/A
Matrix metalloproteinase 7	CRD0194	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 1094-6619 EDTA: 1403-5119 Heparin:	pg/mL	On request	N/A
Matrix metalloproteinase 9	CRD0071	Blood (serum or plasma)	SST, platelet poor EDTA plasma or platelet poor heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 167,760-469,934 PP EDTA Plasma: 34,588-136,743 PP heparin Plasma: 21,154-67,670	pg/mL	On request	N/A
Matrix metalloproteinase-1	12371009 16	Blood (serum or plasma)	SST or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 0.912-9.340 Heparin: 0.179-1.000	ng/mL	On request	N/A
Matrix metalloproteinase-2	12371009 17	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 139-356 EDTA: 141-278 Heparin: 155-342	ng/mL	On request	N/A
Matrix metalloproteinase-3	CRD0193	Blood (serum or plasma)	SST or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 2.10-64.4 Heparin: 1.88-45.9	ng/mL	On request	N/A
Melatonin	12371007 25	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Do not use grossly hemolytic, icteric or grossly lipemic specimens. Samples appearing turbid should be centrifuged before testing.	Stable for 24h at 2-8°C, 3 months at ≤-20°C and 12 months ≤70°C	Werfen DS2 (IBL International kit)	03:00 AM: 18.5-180 08:00 AM: 3.8–80.4	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Monocyte chemotactic protein 3	CRD0184	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: ND-5.97 EDTA: ND-0.77 Heparin: ND-3.12	pg/mL	On request	N/A
Monocyte chemotactic protein-1	CRD0073	Blood (serum or plasma)	SST, EDTA plasma, heparin plasma urine or CSF	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 163-485 EDTA plasma: 106-429 Heparin plasma: 157-459	pg/mL	On request	N/A
Monokine induced by gamma interferon (CXCL9/MIG)	CRD0186	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 144-464 EDTA: 164-564 Heparin: 236-700	pg/mL	On request	N/A
Myelin basic protein	1237100908	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	-	pg/mL	On request	N/A
Myeloperoxidase	CRD0075	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 144-464 EDTA: 164-564 Heparin: 236-700	pg/mL	On request	N/A
Myostatin	1237100729	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 1264-8588 EDTA:1220-7300 Heparin: 1200-7640	pg/mL	On request	N/A
N-acetyl glucosaminidase	1237100730	Blood (serum or plasma) or urine	Blood: SST, EDTA plasma, heparin plasma Urine: Sterile container	500µL	Serum: Allow samples to clot for 2 hours at room temperature or overnight at 4°C before centrifugation for 15 min at 1000xg at 2~8°C. Blood collection tubes should be non-endotoxin. Plasma: Centrifuge samples for 15 min at 1000xg at 2~8°C within 30 min of collection. Hemolysed samples are not suitable	2°-8°C for up to 7 days -20°C or below for longer periods	Werfen DS2 (Novus kit)	-	ng/mL	On request	N/A
Neopterin	1237100842	Blood (serum or plasma) or urine	SST, EDTA plasma or urine.	-	-	-	Manual	-	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Neurofilament Light	CRD0248	Blood (serum or plasma)	SST or EDTA plasma	500ul	Venous Primary sample collection tube should be centrifuged within 1 hour from venepuncture.		Protein Simple Ella		pg/mL	On request	N/A
Neuropeptide Y	1237100920	Blood (serum or plasma)	SST or EDTA plasma	-	-	-	Werfen DS2 (R&D Systems kit)	-	ng/mL	On request	N/A
Nitric oxide	1237100733	Blood (serum or plasma), urine or CSF	Blood: SST, EDTA plasma or heparin plasma Urine/CSF: Sterile container	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 13-97 EDTA plasma: 10-92 Heparin plasma: 10-90 Citrate plasma: 11-81 Urine: 369-2684	umol/L	On request	N/A
Neutrophil Gelatinase-Associated Lipocalin (NGAL)	CRD0304	Blood (serum or plasma), urine or CSF	Blood: SST, EDTA plasma or heparin plasma Urine/CSF: Sterile container	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Bioporto kit	Lith-Hep (F): 0-104 Lith-Hep (M): 26-120 EDTA (F): 0-122 EDTA (M): 0-154 Sterile Universal (F): 0-176 Sterile Universal (M): 0-105 Lith-Hep (F): 0-104 Lith-Hep (M): 26-120 EDTA (Fe): 0-122 EDTA (M): 0-154 Sterile Universal (F): 0-176 Sterile Universal (M): 0-105	ng/mL	On request	N/A
NGAL / Lipocalin-2	CRD0079	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Bioporto kit	-	ng/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Non-esterified fatty acid	1237100734	Send-away test, see: http://www.viapath.co.uk/our-tests/non-esterified-fatty-acids-nefa-0								On request	N/A
Occludin	1237100960	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	ng/mL	On request	N/A
Osteocalcin - Siemens	CRD0305	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Osteocalcin is unstable. Keep blood at 2-8°C immediately after collection and during processing. Serum should be processed and frozen at ≤-20°C within 4 hours of collection. If collection and processing is performed at ambient temperature, serum must be processed and tested or frozen (≤ -20°C) within 2 hours of collection. Serum should be frozen at ≤ -70°C for storage > 1 month	Siemens Immulite	-	ng/mL	On request	N/A
Osteocalcin	1237100921	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Osteocalcin is unstable. Keep blood at 2-8°C immediately after collection and during processing. Serum should be processed and frozen at ≤-20°C within 4 hours of collection. If collection and processing is performed at ambient temperature, serum must be processed and tested or frozen (≤ -20°C) within 2 hours of collection. Serum should be frozen at ≤ -70°C for storage > 1 month	Werfen DS2 (QUIDEL kit)	-	ng/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Osteopontin	CRD0197	Blood (serum or plasma), urine or	SST, EDTA plasma, heparin plasma, urine or CSF	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Serum/plasma: Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Urine: Aseptically collect the first urine of the day (mid	Protein Simple Ella	Serum: 24200-63800 EDTA: 57200-94100 Heparin:	pg/mL	On request	N/A
Oxidative LDL	12371008 47	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Samples can be stored at -80°C for at least 6 months. Avoid repeated freezing and thawing.	Werfen DS2 (Mercodia kit)	-	pg/mL	On request	N/A
Oxytocin	12371009 23	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	ng/mL	On request	N/A
P53 protein	12371008 43	Blood (serum)	SST	500uL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (IBL kit)	ND	pg/mL	On request	N/A
Pancreatic polypeptide	12371009 27	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Pentraxin-3 (TSG-14)	CRD0204	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 747-2846 EDTA: 272-2219 Heparin: 396-2062	pg/mL	On request	N/A
Peptide YY	12371007 36	Blood (serum or plasma)	SST serum EDTA plasma Heparin plasma	500µL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Periostin	CRD0084	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 11,944-28,847 EDTA Plasma: 10,675-28,419 Heparin plasma: 10,567-28,935	pg/mL	On request	N/A
Placental growth factor	CRD0201	Blood (serum or plasma) or urine	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection. e: Aseptically collect the first urine of the day (mid stream), voided directly into a sterile container. Centrifuge to remove particulate matter.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 295-854 EDTA: 310-906 Heparin: 345-1024 Urine: 623-21960	pg/mL	On request	N/A
Platelet-derived GF BB	CRD0199	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
Podocin	12371009 25	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Manual / Werfen	-	pg/mL	On request	N/A
Pregnancy-specific beta-1-glycoprotein 1	12371009 28	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	ND	ng/mL	On request	N/A
Procollagen I C-Terminal Propeptide	12371007 38	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Procollagen type III N-terminal propeptide	12371007 40	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	8 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
P-Selectin	1237100941	Blood (serum or plasma)	SST, EDTA plasma, heparin plasma or citrate plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 43.5-119 EDTA: 18.3-57.4 Heparin: 18.6-50.6 Citrate: ND-37.9	ng/mL	On request	N/A
Randox Cytokine Array (Custom X): Interleukin-2 (IL-2), Interleukin-4 (IL-4), Interleukin-6 (IL-6), Interleukin-8 (IL-8), Interleukin-10 (IL-10), Vascular Endothelial Growth Factor (VEGF), Interferon Gamma (IG), Tumour Necrosis Factor Alpha (TNFa), Interleukin 1 Alpha (IL-1-a), Interleukin 1 Beta (IL-1B), Monocyte Chemotactic Protein-1 (MCP-1), Epidermal Growth Factor (EGF), Interleukin 1 Receptor Antagonist (IL-1 RA)	CRD0246	Blood (serum or plasma)	SST or EDTA plasma	500ul	Carry out sample preparation in accordance with collection tube manufacturer's instructions. Ideally samples should be non-haemolysed and non-lipaemic.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Randox Evidence Investigator	IL-2: 0.00 - 2.76 IL-4: 0.15 - 1.28 IL-6: 0.00 - 2.19 IL-8: 0.00 - 24.56 IL-10: 0.00 - 0.34 VEGF: 0.0 - 153.40 INF-γ: 0.00 - 0.11 TNFα: 0.46 - 2.19 IL-1α: 0.00 - 0.53 IL-1β: 0.04 - 1.56 MCP-1: 0 - 280.53 EGF 8.77 - 95.11 IL1RA: 22.78 - 178.81	pg/mL	On request	N/A
Randox Cytokine Array (High Sensitivity): Interleukin-2 (IL-2), Interleukin-4 (IL-4), Interleukin-6 (IL-6), Interleukin-8 (IL-8), Interleukin-10 (IL-10), Vascular Endothelial Growth Factor (VEGF), Interferon Gamma (IG), Tumour Necrosis Factor Alpha (TNFa), Interleukin 1 Alpha (IL-1-a), Interleukin 1 Beta (IL-1B), Monocyte Chemotactic Protein-1 (MCP-1), Epidermal Growth Factor (EGF)	CRD0245	Blood (serum or plasma)	SST or EDTA plasma	500ul	Carry out sample preparation in accordance with collection tube manufacturer's instructions. Ideally samples should be non-haemolysed and non-lipaemic.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Randox Evidence Investigator	-	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Randox Cytokine Array 1 (Normal Sensitivity): Interleukin-2 (IL-2), Interleukin-4 (IL-4), Interleukin-6 (IL-6), Interleukin-8 (IL-8), Interleukin-10 (IL-10), Vascular Endothelial Growth Factor (VEGF), Interferon Gamma (IG), Tumour Necrosis Factor Alpha (TNFa), Interleukin 1 Alpha (IL-1-a), Interleukin 1 Beta (IL-1B), Monocyte Chemotactic Protein-1 (MCP-1), Epidermal Growth Factor (EGF)	CRD0244	Blood (serum or plasma)	SST or EDTA plasma	500ul	Carry out sample preparation in accordance with collection tube manufacturer's instructions. Ideally samples should be non-haemolysed and non-lipaemic.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Randox Evidence Investigator	Serum & plasma IL-2: 0.00 - 2.42 0.69 - 2.22 IL-4: 0.88 - 2.63 0.82 - 2.98 IL-6: 0.00 - 2.13 0.00 - 2.21 IL-8: 0.95 - 14.11 0.05 - 6.70 IL-10: 0.04 - 1.05 0.14 - 1.08 VEGF: 0.00 - 211.65 0.00 - 56.17 IFN-γ: 0.00 - 1.24 0.03 - 0.58 TNF-α: 2.28 - 7.81 1.47 - 5.93 IL-1α: 0.00 - 0.27 0.02 - 0.27 IL-1β: 0.00 - 2.34 0.00 - 2.65 MCP-1: 44.62 - 395.52 12.98 - 136.18 EGF: 54.06 - 196.88	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Randox Cytokine Array V: Interleukin-3 (IL-3), Interleukin-7 (IL-7), Interleukin-12 P70 (IL-12 P70), Interleukin-13 (IL-13), Interleukin-23 (IL-23)	CRD0247	Blood (serum or plasma)	SST or EDTA plasma	500ul	Carry out sample preparation in accordance with collection tube manufacturer's instructions. Ideally samples should be non-haemolysed and non-lipaemic.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Randox Evidence Investigator	Serum & plasma IL-3: <9.544 <8.41 IL-7: 3.35 - 33.82 1.82 - 16.04 IL-12: <3.19 <3.24 IL-13: <1.68 <1.98 IL-23: <0.0098 ng/ml <0.01 ng/ml	pg/mL	On request	N/A
Rantes	CRD0206	Blood (serum or plasma)	SST, platelet poor EDTA plasma or platelet	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 18678-119117 EDTA: 203-1899 Heparin: 752-9720	pg/mL	On request	N/A
Receptor for advanced glycation end product (RAGE)	CRD0205	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 538-2096 EDTA: 818-1777 Heparin: 668-1764	pg/mL	On request	N/A
Regenerating islet-derived-3-alpha (REG3)	CRD0207	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 3136-22856 EDTA: 3455-24482 Heparin: 3522-25352	pg/mL	On request	N/A
Resistin	CRD0088	Blood (serum or plasma)	SST serum EDTA plasma Heparin plasma	500µL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 4511-10,534 EDTA plasma: 4473-10,822 Heparin plasma: 4733-11,185	pg/mL	On request	N/A

Retinol binding protein (RBP)	?	Blood (serum or plasma), saliva or urine	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection. Saliva - Collect saliva using a collection device such as a Salivette or equivalent. Saliva collector must not have any protein binding or filtering capabilities. Urine - Aseptically collect the first urine of the day (mid-stream), voided directly into a sterile container.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 12700-48600 EDTA: 11900-48300 Heparin: 12200-43000 Urine:16.4-252 Saliva: 3.11-29.6	ng/mL	On request	N/A
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Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Salivary 17OH-progesterone	1237100749	Saliva	Saliva	500uL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A
Salivary Amylase	CRD0090	Saliva	Salivette	500µL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	U/mL	On request	N/A
Salivary androstenedione	1237100935	Saliva	Saliva	500uL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A

Salivary Cortisol	1237100678	Saliva	Salivette	500µL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	ug/dL	On request	N/A
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Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Salivary Cotinine	1237100744	Saliva	Salivette	500µL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	ng/mL	On request	N/A
Salivary C-reactive protein (CRP)	?	Saliva	Saliva	500uL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A
Salivary dehydroepiandrosterone sulphate (DHEAS)	?	Saliva	Saliva	500uL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial. Samples visibly contaminated with blood should be recollected.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Salivary DHEA	1237100745	Saliva	Salivette	500µL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial. Samples visibly contaminated with blood should be recollected.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A
Salivary estriol	1237100943	Saliva	Saliva	300uL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial. Samples visibly contaminated with blood should be recollected.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	Premenopausal adult females AM: 0 - 16.4 Premenopausal adult females PM: 0 - 4.8 <i>Guide from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A
Salivary estrone	1237100942	Saliva	Saliva	500uL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial. Samples visibly contaminated with blood should be recollected.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Salivary IgA	1237100746	Saliva	Salivette	500µL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial. Samples visibly contaminated with blood should be recollected.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	µg/mL	On request	N/A
Salivary melatonin	1237100747	Saliva	Salivette	500µL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial. Samples visibly contaminated with blood should be recollected.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A
Salivary oestradiol	1237100748	Saliva	Salivette	500µL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial. Samples visibly contaminated with blood should be recollected.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Salivary progesterone	1237100749	Saliva	Polypropylene vial	500µL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial. Samples visibly contaminated with blood should be recollected.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A
Salivary testosterone	1237100750	Saliva	Salivette	500µL	Avoid sample collection within 60 minutes after eating a major meal or within 12 hours after consuming alcohol. Avoid acidic or high sugar foods, to minimise rinse mouth thoroughly with water 10 minutes before sample is collected. Collect whole saliva by unstimulated passive drool. Donors tilt the head forward, allowing the saliva to pool on the floor of the mouth, then pass the saliva through the SalivaBio Collection Aid (SCA) into a polypropylene vial. Samples visibly contaminated with blood should be recollected.	Refrigerate sample within 30 minutes, and freeze at or below -20°C within 4 hours of collection. (Samples may be stored at -20°C for up to 6 months.)	Werfen DS2 (Salimetrics kit)	<i>Guide referece ranges available from manufacturer, laboratory to establish its own range.</i>	pg/mL	On request	N/A
Sclerostin	1237100945	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Grossly haemolysed samples should not be used.	Werfen DS2 (R&D Systems kit)	Serum: 67-300 EDTA: 200-712 Heparin: 222-805	pg/mL	On request	N/A

Serotonin	12371007 51	Blood (serum or plasma) or urine	Blood: SST, platelet rich EDTA or heparin plasma Urine: 24h sterile collection	500µL	Patients should avoid serotonin rich foods, certain medications may stimulate serotonin levels in blood. Collect samples as per local protocol, grossly haemolysed, lipaemic or icteric samples must not be used. A platelet extract can be prepared.	Serum stable for 2h at 18-25°C, 6h at 2-8°C and 3 months ≤ - 20°C. Platelet rich plasma stable for 2 weeks at < -20°C, platelet extract stable for 4 weeks at < -20°C and for 12 months at < -80°C. Urine stable for 6 months at < -20°C.	Werfen DS2 (IBL International kit)	Serum: 30-200 plasma: 1.8-7.5 platelets: 217-861 ng/10 ⁹ platelets urine: ≤200 ug/d	ng/mL	On request	N/A
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Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Serpin A6/cortisol binding globulin	1237100871	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
Soluble receptor activator of nuclear factor-kappa B ligand	CRD0099	Blood (serum or plasma)	SST or EDTA plasma	500uL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	-	-	pg/mL	On request	N/A
Somatostatin	1237100944	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	8 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
ST2 (IL-1 R4)	1237100846	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 5397-36527 EDTA: 5201-36891 Heparin: 4883-37865	pg/mL	On request	N/A
Stem cell factor	1237100936	Blood (serum or plasma)	SST, EDTA plasma, heparin plasma or citrate	500uL	Serum - Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Grossly lipaemic samples should not be used.	Werfen DS2 (R&D Systems kit)	Serum (male): 2205-11149 Serum (female): 3877-77273 Values in	pg/mL	On request	N/A
Stromal cell-derived factor 1a (CXCL12/SDF-1α)	CRD0213	Blood (plasma)	Platelet poor EDTA plasma or platelet poor heparin plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Grossly haemolysed samples should not be used.	Protein Simple Ella	EDTA: 1763-2781 Heparin: 1691-2593	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
T.Inhib. Metalloproteinases-2 (TIMP-2)	CRD0227	Blood (serum or plasma), saliva or plasma.	Serum, EDTA plasma, heparin plasma.	500uL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Serum/plasma: Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Grossly icteric or haemolysed samples should not be used.	Protein Simple Ella	Serum: 33300-87100 EDTA: 35100-80500 Heparin: -	pg/mL	On request	N/A
T.inhib. metalloproteinases-3 (TIMP-3)	1237100953	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for about 4 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Grossly haemolysed samples should not be used.	Werfen DS2 (Novus kit)	-	pg/mL	On request	N/A
T.inhib. metalloproteinases-4 (TIMP-4)	1237100954	Blood (serum or plasma) or human milk	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for about 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection. Human Milk: Centrifuge for 15 minutes at 1000 x g at 2-8 °C. Collect the aqueous fraction and centrifuge twice more.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 460-2661 EDTA: 516-2476 Heparin: 664-2328 Milk: 25700-111000	pg/mL	On request	N/A
Thrombomodulin/BDCA-3	1237100949	Blood (serum or plasma) or urine	SST, EDTA plasma, heparin plasma, citrate plasma or urine	500uL	Serum: Allow samples to clot for about 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection. Urine: Aseptically collect the first urine of the day (mid-stream), voided directly into a sterile container. Centrifuge to remove particulate matter.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: 2866-5318 EDTA: 2815-5407 Heparin: 2805-5479 Citrate: 2353-4541 Urine: 3540-29100	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Thrombopoeitin	12371009 51	Blood (serum or platelet poor plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for about 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Platelet-poor Plasma - Collect plasma on ice. Centrifuge at 2-8 °C for 15 minutes at 1000 x g within 30 minutes of collection. An additional centrifugation step of the plasma at 10,000 x g for 10 minutes at 2-8 °C is recommended for complete platelet removal.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: ND-228 EDTA: ND-196 Heparin: ND-168	pg/mL	On request	N/A
Thrombospondin-1	CRD0225	Blood (serum or plasma)	Serum, platelet-poor EDTA plasma or platelet-poor heparin plasma	500uL	Serum: Allow samples to clot for about 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Platelet-poor Plasma - Collect plasma on ice. Centrifuge at 2-8 °C for 15 minutes at 1000 x g within 30 minutes of collection. An additional centrifugation step of the plasma at 10,000 x g for 10 minutes at 2-8 °C is recommended for complete platelet removal.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	-	pg/mL	On request	N/A
Thromboxane	12371009 47	Blood (serum or plasma) or urine	SST, EDTA plasma, heparin plasma or urine	500uL	Serum: Allow samples to clot for about 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma: Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection. Urine: Aseptically collect the first urine of the day (mid-stream), voided directly into a sterile container. Centrifuge to remove particulate matter.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Do not use lipemic, grossly hemolyzed, or turbid samples.	Werfen DS2 (R&D Systems kit)	Serum: 1.1-11.3 EDTA: ND-10.1 Heparin: ND-9.26 Urine: 3.5-72.5	ng/mL	On request	N/A
Tissue inhibitor of metalloproteinases-1	CRD0102	Blood (serum or plasma) or CSF	SST, EDTA plasma or heparin plasma	500µL	Serum: Allow samples to clot for about 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Platelet-poor Plasma - Collect plasma on ice. Centrifuge at 2-8 °C for 15 minutes at 1000 x g within 30 minutes of collection. An additional centrifugation step of the plasma at 10,000 x g for 10 minutes at 2-8 °C is recommended for complete platelet removal.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 40509-145619 EDTA plasma: 36037-168192 Heparin plasma: 38827-71776 CSF: 44071-673106	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Tissue necrosing factor a	CRD0103	Blood (serum or plasma) or broncho alveolar fluid	SST, EDTA plasma or heparin plasma	500µL	Serum: Allow samples to clot for about 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Platelet-poor Plasma - Collect plasma on ice. Centrifuge at 2-8 °C for 15 minutes at 1000 x g within 30 minutes of collection. An additional centrifugation step of the plasma at 10,000 x g for 10 minutes at 2-8 °C is recommended for complete platelet removal.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 4.05-8.34 EDTA plasma: 2.45-6.16 Heparin plasma: 2.87-7.99	pg/mL	On request	N/A
TNF alpha high sensitivity	CRD0104	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum: Allow samples to clot for about 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Platelet-poor Plasma - Collect plasma on ice. Centrifuge at 2-8 °C for 15 minutes at	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 7.78-12.2 EDTA plasma: 4.94-9.68 Heparin plasma: 5.06-9.62	pg/mL	On request	N/A
TNF receptor 1	CRD0105	Blood (serum or plasma)	Serum, EDTA plasma, heparin plasma or CSF	500uL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Grossly haemolysed or icteric samples should not be used.	Protein Simple Ella	Serum: 1065-2890 EDTA: 808-2790 Heparin: 879-3040 CSF: 742-1416	pg/mL	On request	N/A
TNF receptor 2 (TNF RII/TNFRSF1B)	CRD0230	Blood (serum or plasma)	Serum, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Grossly haemolysed or icteric samples should not be used.	Protein Simple Ella	Serum: 1743-4198 EDTA: 1320-4758 Heparin: 1263-2995	pg/mL	On request	N/A
Transforming growth factor alpha	1237100948	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: ND-32 Plasma: ND	pg/mL	On request	N/A
Transforming growth factor B-1	CRD0106	Blood (serum or plasma)	SST, platelet poor EDTA plasma or platelet poor heparin plasma	500µL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 30120-61578 PP EDTA: 1046-31915 PP heparin 1217-13398	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Transforming growth factor B-2	1237100760	Blood (serum or plasma)	SST, EDTA plasma, heparin plasma or citrate	500µL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Werfen DS2 (R&D Systems kit)	Serum: ND-873 EDTA: ND-442 Citrate: ND-320 Heparin: ND-454	pg/mL	On request	N/A
Trappin-2/elafin	CRD0155	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 5971-18525 EDTA: 6374-17637 Heparin: 6571-16072	pg/mL	On request	N/A
Tumor necrosis factor alpha (TNF-a)	CRD0108	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	6.10-13.58	pg/mL	On request	N/A
Uromodulin	CRD0231	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	ng/mL	On request	N/A
Urinary Dickkopf-related protein 3 (uDKK3)	CRD0309	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Preferably, the central fraction of the morning urine is collected in a suitable container with a tight-fitting cap.	Must be transported on dry ice.	Immundiagno stik	-	ng/mL	On request	N/A
Vascular cell adhesion molecule-1	CRD0109	Blood (serum or plasma) or CSF	SST, EDTA plasma or heparin plasma	500µL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	Serum: 315808-973354 EDTA: 321648-879975 Heparin: 361463-768399 CSF: 21508-74820	pg/mL	On request	N/A

Test Description	Epic test code	Sample type	Sample tube	Minimum volume	Processing requirements (pre-analysis)	Storage requirements (pre-analysis)	Method	Reference ranges	Units	Frequency	Guide TAT
Vascular endothelial growth factor	CRD0110	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles.	Protein Simple Ella	0.00-450.64	pg/mL	On request	N/A
Vascular endothelial GF C	CRD0232	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	-	Protein Simple Ella	-	pg/mL	On request	N/A
VEGF Receptor 1/FLT-1	CRD0162	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Grossly heamolysed or icteric samples not suitable.	Protein Simple Ella	Serum: 84.4-165 EDTA: 73.8-199 Heparin: 65.0-140	pg/mL	On request	N/A
VEGF receptor 2	CRD0233	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500uL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Grossly heamolysed or icteric samples not suitable.	Protein Simple Ella	Serum: 8968-12737 EDTA: 8355-13394 Heparin: 8246-12767	pg/mL	On request	N/A
VEGF receptor 3	CRD0163	Blood (serum or plasma)	SST or citrate plasma	500uL	Serum: Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	6 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	Serum: 33-167 Citrate: 31-200	ng/mL	On request	N/A
Visfatin	CRD0111	Blood (serum or plasma)	SST, EDTA plasma or heparin plasma	500µL	Serum: Allow samples to clot for 2 hours at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	7 days at 2-8°C ≤1 month -20°C ≤3 months -80°C Avoid repeated freeze-thaw cycles	Werfen DS2 (Novus kit)	-	ng/mL	On request	N/A
Vitamin D binding protein	CRD0112	Blood (serum or plasma) or urine	Blood: SST, EDTA plasma or heparin plasma Urine: Sterile universal	500µL	Serum: Allow samples to clot for 30 minutes at room temperature, centrifuge for 15 minutes at 1000 x g. Plasma - Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection.	Store samples at ≤-20°C. Avoid repeated freeze-thaw cycles. Grossly heamolysed or icteric samples not suitable.	Protein Simple Ella	Serum: 92.9-225 EDTA: 95.0-243 Heparin: 88.4-293 Urine: 1040-75244	µg/mL	On request	N/A