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Test	Sample type	Units	Age		Reference interval
25 OH Vitamin D	Serum	nmol/L	0-Y151	All	50-200
3 Methoxytyramine	Urine, 24h	µmol/24h	ALL		0-2.5
3 Methoxytyramine:Creatinine ratio	Urine	mmol/mol	<Y001	All	0-2.10
3 Methoxytyramine:Creatinine ratio			Y001- <Y002	All	0-1.20
3 Methoxytyramine:Creatinine ratio			Y002- <Y005	All	0-1.0
3 Methoxytyramine:Creatinine ratio			Y005- <Y010	All	0-0.85
3 Methoxytyramine:Creatinine ratio			≥Y010	All	0-0.60
5-hydroxyindoleacetic acid (5HIAA)	Urine	µmol/24h			0-47
5-hydroxyindoleacetic acid (5HIAA):Creatinine	Urine	µmol/mmol	<Y007		0-8.1
5-hydroxyindoleacetic acid (5HIAA):Creatinine			Y007- <Y012		0-4.3
5-hydroxyindoleacetic acid (5HIAA):Creatinine			≥Y012		0-5.7
ACTH	EDTA plasma	ng/L			10-50
Active B12	Serum	pmol/L			>30
Adrenaline	Heparin/ EDTA plasma	nmol/L			<0.8
Alanine transaminase (ALT)	Serum/lithium heparin	U/L			1-50
Albumin	Serum/lithium heparin	g/L	0-W25		25-45
Albumin			W26-Y03		30-45
Albumin			Y04-Y151		35-50
Albumin	Fluid				NA
Albumin creatinine ratio (ACR)	Urine	g/mol		F	<3.5
Albumin creatinine ratio (ACR)				M	<2.5
Alkaline Phosphatase	Serum/lithium heparin	U/L	0-D027	All	70-380
Alkaline Phosphatase			D028-Y017	All	35-425
Alkaline Phosphatase			≥Y018	All	30-130
Alphafetoprotein	Serum/lithium heparin	kU/L	0-Y070	All	<10
Alphafetoprotein			Y071-Y080	All	<15
Alphafetoprotein			≥Y081	All	<20
Amiodarone	Serum	mg/L			0.5-2.0
Ammonia	EDTA plasma	µmol/L			≤50
Amylase	Serum/lithium heparin	U/L			20-110
Amylase	Fluid				NA
Amylase	Urine	U/l			≤650
Angiotensin converting enzyme	Serum/lithium heparin	U/L	0-W025	All	0
Angiotensin converting enzyme			W025-Y018	All	34-117
Angiotensin converting enzyme			Y018-Y151	All	25-75
Antithrombin III	Blood sodium citrate	IU/dL			78-110
APC	Blood sodium citrate	ratio			0.9-1.3
APTT	Blood sodium citrate	ratio			0.8-1.2
Arginine			≥6m	All	30-140
Arginine	lithium heparin, plasma	µmol/L	<6m	All	30-155
Arginine:Creatinine	Urine	mmol/mol			0-25
Aspartate aminotransferase (AST)	Serum/lithium heparin	U/L	0-W005	All	1-100
Aspartate aminotransferase (AST)			W005-Y151	F	1-35
Aspartate aminotransferase (AST)				M	1-45
AT111	Blood sodium citrate	IU/dL			78-110
Beta Carotene	Serum/lithium heparin	µmol/L			0.19-1.58
Bile Acids	Serum	µmol/L			≤16
Bilirubin, Conjugated	Serum/lithium heparin	µmol/L			0.1-13
Bilirubin, total	Serum/lithium heparin	µmol/L	<D015	All	≤200
Bilirubin, total			≥D015	F	1-21
Bilirubin, total				M/U	1-25
Bone Marrow	EDTA whole blood				NA

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CA 125	Serum/heparin plasma	kU/L			≤35
CA 19-9	Serum/heparin plasma	kU/L			≤37
Calcium	Serum/lithium heparin	mmol/L	<D028	All	1.90-2.80
Calcium			D028- <W052	All	2.15-2.70
Calcium			W052-Y151	All	NA
Calcium	Urine, 24h	mmol/24h			2.5-7.5
Calcium	Fluid				NA
Calcium, adjusted	Serum/lithium heparin	mmol/L	<W052	All	NA
Calcium, adjusted			W052- <Y012	All	2.10-2.60
Calcium, adjusted			≥Y012-Y151	All	2.20-2.60
Calcium:Creatinine ratio	Urine	mol/mol			0.3-0.6
Calcium-oxalate product	Urine, 24h	mmol/24h			≤2
Calprotectin	Faeces	µg/g			≤50
Carbamazepine	Serum/lithium heparin	mg/L			<12
Carcinoembryonic antigen (CEA)	Serum/heparin plasma	µg/L	Non smokers		<5
Carcinoembryonic antigen (CEA)			Smokers		<10
Chloride	Serum/lithium heparin	mmol/L			95-108
Chloride	Fluid				NA
Chloride	Urine	mmol/L			NA
Cholesterol	Serum/lithium heparin	mmol/L	<W006	All	1.5-4.0
Cholesterol		All	W006-W030	All	2.0-4.5
Cholesterol			W031-Y015	All	2.0-4.5
Cholesterol			≥Y016	All	2.0-5.0
Cholesterol	Fluid				NA
Cholesterol/HDL ratio	Serum/lithium heparin				2.0-5.0
Citrate	Urine, 24h	mmol/24h	<Y013	All	NA
Citrate			≥Y013	F	1.3-6.0
Citrate				M	0.6-4.8
Citrate:Creatinine	Urine	mmol/mmol		F	0.11-0.55
Citrate:Creatinine				M	0.04-0.33
Citrulline	Plasma (lithium heparin)	µmol/L	<6m	All	20-60
Citrulline			≥6m	All	20-70
Citrulline:Creatinine	Urine	mmol/mol	<6m	All	0-25
Citrulline:Creatinine			≥6m		0-10
CO2	Fluid				NA
CO2, total	Serum/lithium heparin	mmol/L	<D015	All	16-22
CO2, total			D015-Y001	All	18-25
CO2, total			Y002-Y017	All	19-28
CO2, total			≥Y018	All	22-29
Cortisol	Serum, 8.00 am	nmol/L	All	All	100-650
Cortisol	Serum, midnight		All	All	<150
Cortisol	Urine	mmol/mol	<W052	All	NA
Cortisol			≥W052	All	≤30
Cortisol (Urine free cortisol)	Urine, 24h	nmol/24h	<Y014	All	≤140
Cortisol (Urine free cortisol)			≥Y014	All	25-280
C-Reactive Protein	Serum/lithium heparin	mg/L			<5
Creatinine	Serum/lithium heparin	µmol/L	<D015	All	22-81
Creatinine			D015- <W052	All	11-34
Creatinine			W053- <Y007	All	15-42
Creatinine			Y008- <Y011	All	28-57
Creatinine			Y012- <Y016	All	37-72
Creatinine			≥Y016	F	20-103
Creatinine				M	20-107

Creatinine				P	20-103
Creatinine				U	20-107
Creatinine	Fluid				NA
Creatinine	Urine	mmol/24h		F	5-14
Creatinine				M	7-16
Creatinine				U	5-16
Creatinine kinase	Serum/lithium heparin	U/L		F	25-200
Creatinine kinase				M	25-320
Creatinine kinase				P	25-200
Creatinine kinase				U	25-320
CSF Lactate	CSF	mmol/L	<Y016	All	1.1-2.2
CSF Lactate			≥Y016	All	≤3.0
CSF Serine		µmol/L			15-61
Cyclosporin	EDTA whole blood; trough level	µg/L			150-250
Cystatin C	Serum/lithium heparin	mg/L			0.62-1.11
Cystatin C GFR	Serum/lithium heparin	mL/min			≥60
Cystine	Lithium heparin, plasma	µmol/L	0-W026	All	30-90
Cystine	Urine, 24h	µmol/24h	W026-Y151	All	30-110
Cystine			<Y016	All	11-53
Cystine			≥Y016	All	28-115
Cystine:Creatinine	Urine	mmol/mol	<W027	All	5-150
Cystine:Creatinine			≥W027	All	5-15
D-Dimer	Blood sodium citrate	g/L			0-500
Digoxin	Serum/lithium heparin; >6hr post dose	µg/L			0.5-1.0
Dihydrotestosterone	Serum/lithium heparin	pmol/L	<D026	F	0-25
Dihydrotestosterone			W026-Y009		≤100
Dihydrotestosterone			Prepubertal		<100
Dihydrotestosterone			Postpubertal		80-1270
Dihydrotestosterone			Y017-Y049		80-1270
Dihydrotestosterone			Premanopausal		80-1270
Dihydrotestosterone			≥Y050		≥0-620
Dihydrotestosterone			<D014	M	0-1890
Dihydrotestosterone			D014-W025		140-4130
Dihydrotestosterone			W026-Y009		≤100
Dihydrotestosterone			Prepubertal		<100
Dihydrotestosterone			Postpubertal		860-3400
Dihydrotestosterone			≥Y017		860-3400
eGFRcreat (CKD-EPI)	Serum/lithium heparin	mL/min/1.73m2			≥60
Erythropoietin	Serum/heparin plasma	U/L			5-25
ESR	EDTA whole blood	mm/hour		F	0-15
ESR				M	0-10
Factor II	Blood sodium citrate	IU/dL			91-147
Factor IX	Blood sodium citrate	IU/dL			82-147
Factor V	Blood sodium citrate	IU/dL			70-150
Factor VII	Blood sodium citrate	IU/dL			76-161
Factor VIII von Willebrand factor (VWF) Antigen	Blood sodium citrate	IU/dL			46-189
Factor VIIIc	Blood sodium citrate	IU/dL			54-175

Factor X	Blood sodium citrate	IU/dL			81-147
Factor XI	Blood sodium citrate	U/dL			71-163
Factor XII	Blood sodium citrate	IU/dL			63-136
Faecal Elastase	Faecal	µg/g			>200
Ferritin	Serum/heparin plasma	µg/L	<Y013		10-200
Ferritin			≥Y013	F	10-200
Ferritin			≥Y013	M/U	25-200
Fibrinogen	Blood sodium citrate	g/L			1.8-4.5
FK506 (tacrolimus)	EDTA whole blood	µg/L			Interpreted in context with clinical history, renal function and dose
Folate	Serum/heparin plasma	µg/L			3.0-20
Free T3	Serum/heparin plasma	pmol/L			2.6-5.7
Free T4	Serum/heparin plasma	pmol/L			9.0-22.0
Free Testosterone Index	Serum	%	<Y016	All	NA
Free Testosterone Index			Y016-Y016	F	0.5-4.7
Free Testosterone Index			Y017-Y050	F	0.5-4.7
Free Testosterone Index			Y016-Y050	M	22-75
Free Testosterone Index			Y051-Y151	F	None-None
Free Testosterone Index				M	22-75
Fructosamine	Serum	µmol/L			≤285
FSH	Serum/heparin plasma	U/L	F	Follicular	1-10
FSH				Mid-cycle	5-35
FSH				Luteal	1-6
FSH				Post menopausal	25-100
FSH			M		1-10
Full Blood Count	EDTA whole blood				Age and gender specific reference ranges available, contact lab
G6PD	EDTA whole blood	U/g Hb			4.6-13.5
Gamma GT	Serum/lithium heparin	U/L	All	F	1-48
Gamma GT				M	1-50
Gentamicin	Serum/heparin plasma	mg/L	Pre-dose, od		<1
Gentamicin			Pre-dose, bd		<2
Gentamicin			Post dose, bd/tds		5-10
Glucose	CSF				NA
Glucose	Fluid				NA
Glucose	Flouride plasma	mmol/L			3.0-6.0
Glutamic Acid	Plasma (lithium heparin)	µmol/L	0-W026	All	20-250
Glutamic Acid			≥W026	All	20-150
Glutamic Acid:Creatinine	Urine	mmol/mol	0-W026	All	0-25
Glutamic Acid:Creatinine			≥W026	All	0-5
Glutamine	Plasma (lithium heparin)	µmol/L	<6m	All	520-960
Glutamine			≥6m	All	520-850
Glutamine	CSF	µmol/L			330-630
Glutamine ratio	CSF:Plasma ratio				0.8-1.0
Glutamine:Creatinine	Urine	mmol/mol	<6m	All	35-160
Glutamine:Creatinine			≥6m	All	35-90
Glycine	CSF	µmol/L			3-11
Glycine	Plasma (lithium heparin)	µmol/L		All	160-500
Glycine ratio	CSF:Plasma ratio				0.01-0.04
Glycine:Creatinine	Urine	mmol/mol	0-W026	All	110-1100
Glycine:Creatinine			≥W026	All	110-550

Growth Hormone	Serum/heparin plasma	µg/L			≤3.5
Haemoglobin	Urine				1.1-2.2
Haemoglobin A2 %	EDTA whole blood				1.8-3.4
Haemoglobin F %	EDTA whole blood				<1.5
Haemoglobinopathy screen	EDTA whole blood				NA
HbA1c IFCC Std	EDTA whole blood	mmol/mol			20-41
HDL Cholesterol	Serum/lithium heparin	mmol/L		F	1.1-2.6
HDL Cholesterol				M	1.1-2.2
HDL Cholesterol				U	1.1-2.6
Heparin Assay	Blood sodium citrate	IU/DL			0.3-1.0
Histidine	Plasma (lithium heparin)	µmol/L	0-W026		60-195
Histidine			W026-Y151		60-180
Histidine:Creatinine	Urine	mmol/mol	0-W026	All	50-800
Histidine:Creatinine			≥W026	All	50-350
Homovanillic acid (HVA)	Urine, 24h	µmol/24h	<W001	All	0-3.6
Homovanillic acid (HVA)			W001- <W030	All	0-5.5
Homovanillic acid (HVA)			W030- <Y001	All	0-8.2
Homovanillic acid (HVA)			Y001- <Y006	All	0-14.0
Homovanillic acid (HVA)			Y006- <Y012	All	0-33.0
Homovanillic acid (HVA)			≥Y012	All	0-43.0
Homovanillic acid:Creatinine ratio	Urine	mmol/mol	<W001	All	0-31.0
Homovanillic acid:Creatinine ratio			W001- <W030	All	0-25.0
Homovanillic acid:Creatinine ratio			W030- <Y001	All	0-19.0
Homovanillic acid:Creatinine ratio			Y001- <Y003	All	0-17.0
Homovanillic acid:Creatinine ratio			Y003- <Y005	All	0-16.0
Homovanillic acid:Creatinine ratio			Y005- <Y008	All	0-14.0
Homovanillic acid:Creatinine ratio			Y008- <Y012	All	0-11.0
Homovanillic acid:Creatinine ratio			≥Y012	All	0-7.0
Hydroxyproline	Plasma (lithium heparin)	µmol/L		All	0-50
Hydroxyproline:Creatinine	Urine	mmol/mol		All	0-250
INR	Blood sodium citrate	ratio			0.8-1.2
Insulin-like growth factor-1 (IGF-I)	Serum/heparin plasma	nmol/L	0-Y006	All	4.0-20.0
Insulin-like growth factor-1 (IGF-I)			Y007-Y009	All	7.0-40.0
Insulin-like growth factor-1 (IGF-I)			Y0010	All	12.0-50.0
Insulin-like growth factor-1 (IGF-I)			Y011	All	17.0-60.0
Insulin-like growth factor-1 (IGF-I)			Y012	All	20.0-85.0
Insulin-like growth factor-1 (IGF-I)			Y013	All	23.0-90.0
Insulin-like growth factor-1 (IGF-I)			Y014-Y016	All	30.0-90.0
Insulin-like growth factor-1 (IGF-I)			Y017-Y020	All	23.0-70.0
Insulin-like growth factor-1 (IGF-I)			Y021-Y040	All	13.0-50.0
Insulin-like growth factor-1 (IGF-I)			Y041-Y060	All	9.0-40.0
Insulin-like growth factor-1 (IGF-I)			≥Y061	All	6.0-36.0
Insulin-like growth factor-binding protein 3 (IGFBP-3)		mg/L	0-W051	F	1.1-3.3
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	1.1-3.2
Insulin-like growth factor-binding protein 3 (IGFBP-3)			W052-Y001	F	1.2-3.7
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	1.3-3.6
Insulin-like growth factor-binding protein 3 (IGFBP-3)			Y002	F	1.4-4.2
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	1.5-4.1
Insulin-like growth factor-binding protein 3 (IGFBP-3)			Y003	F	1.6-4.6
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	1.6-4.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)			Y004	F	1.7-4.9
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	1.8-4.9
Insulin-like growth factor-binding protein 3 (IGFBP-3)			Y005	F	1.9-5.2

Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	1.9-5.2
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y006	F	1.9-5.4
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.0-5.4
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y007	F	2.0-5.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.1-5.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y008	F	2.1-5.6
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.2-5.6
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y009	F	2.2-5.8
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.2-5.7
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y010	F	2.3-5.9
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.3-5.8
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y011	F	2.4-6.1
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.4-6.0
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y012	F	2.4-6.2
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.5-6.1
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y013	F	2.5-6.3
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.5-6.2
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y014	F	2.6-6.4
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.6-6.3
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y015	F	2.6-6.4
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.6-6.3
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y016	F	2.7-6.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.6-6.3
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y017	F	2.7-6.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.7-6.3
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y018	F	2.7-6.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.7-6.3
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y019	F	2.8-6.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.7-6.3
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y020	F	2.8-6.6
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.7-6.4
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y021-Y024	F	2.9-6.6
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.8-6.4
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y024-Y029	F	2.8-6.2
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.7-6.1
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y030-Y034	F	2.6-5.8
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.6-6.0
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y035-Y039	F	2.5-5.7
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.6-6.0
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y040-Y044	F	2.4-5.6
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.5-6.0
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y045-Y049	F	2.3-5.6
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.4-5.9
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y050-Y054	F	2.3-5.7
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.3-5.8
Insulin-like growth factor-binding protein 3 (IGFBP-3)	Y055-Y059	F	2.2-5.7
Insulin-like growth factor-binding protein 3 (IGFBP-3)		M	2.1-5.7

Insulin-like growth factor-binding protein 3 (IGFBP-3)			Y060-Y064	F	2.2-5.7
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	2.0-5.6
Insulin-like growth factor-binding protein 3 (IGFBP-3)			Y065-Y069	F	2.1-5.6
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	1.9-5.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)			Y070-Y074	F	2.0-5.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	1.8-5.2
Insulin-like growth factor-binding protein 3 (IGFBP-3)			Y075-Y079	F	2.0-5.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	1.7-5.0
Insulin-like growth factor-binding protein 3 (IGFBP-3)			Y080-Y084	F	1.9-5.5
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	1.6-5.0
Insulin-like growth factor-binding protein 3 (IGFBP-3)			≥Y085	F	2.0-5.7
Insulin-like growth factor-binding protein 3 (IGFBP-3)				M	1.7-5.2
Intact PTH		pmol/L			1.6-7.3
Iohexol clearance, corrected		mL/min/1.73m <sup>2</sup>			96-130
Iron	Serum/lithium heparin	µmol/L			10-30
Iron	Urine, 24h	µmol/24 hrs			≤2.0
Iron	Urine	µmol/24 hrs			≤2.0
Isoleucine	Plasma (lithium heparin)	µmol/L	0-W026	All	35-105
Isoleucine			W026-Y151	All	35-120
Isoleucine:Creatinine	Urine	mmol/mol	0-W026		0-50
Isoleucine:Creatinine			≥W026		0-10
Kleihauer	EDTA whole blood				NA
Lactate	Plasma, Na fluoride/K oxalate	mmol/L			0.6-2.5
Lamotrigine		mg/L			≤15
LDH	Fluid				NA
LDH	Serum/lithium heparin	U/L			100-240
LDL Cholesterol	Serum/lithium heparin	mmol/L			1.0-3.0
Leucine	Plasma (lithium heparin)	µmol/L	<6m	All	80-230
Leucine			≥6m	All	80-220
Leucine:Creatinine	Urine	mmol/mol	0-W026	All	0-50
Leucine:Creatinine			≥W026	All	0-15
Linoleic Acid		%			11.8-28.5
Lithium	Serum/lithium heparin	mmol/L			0.4-1.0
Lupus Inhibitor Screening	Serum and Blood sodium citrate				NA
Luteinizing hormone	Serum/heparin plasma	U/L	F	Follicular	1-13
Luteinizing hormone				Mid-cycle	8-75
Luteinizing hormone				Luteal	1-15
Luteinizing hormone				Post menopausal	25-100
Luteinizing hormone			M		1-10



Magnesium	Serum/lithium heparin	mmol/L			0.7-1.0
Magnesium	Urine, 24h	mmol/24h			2.4-6.5
Malarial Parasites	EDTA whole blood				NA
Metadrenaline	Urine, 24h	µmol/24h	<W013	All	0-0.20
Metadrenaline			W013- <Y001	All	0-0.20
Metadrenaline			Y001- Y002	All	0-0.30
Metadrenaline			Y003- Y007	All	0-0.50
Metadrenaline			Y008- Y011	All	0-0.80
Metadrenaline			≥Y012	All	0-1.20
Metadrenaline:Creatinine	Urine	mmol/mol	<W013	All	None-0.5
Metadrenaline:Creatinine			W012- <W026	All	0-0.38
Metadrenaline:Creatinine			W026- <Y001	All	0-0.27
Metadrenaline:Creatinine			Y001- <Y002	All	0-0.22
Metadrenaline:Creatinine			Y002- <Y005	All	0-0.22
Metadrenaline:Creatinine			Y005- <Y010	All	0-0.18
Metadrenaline:Creatinine			≥Y010	All	0-0.14
Methionine	Plasma (lithium heparin)	umol/L	<6m	All	10-100
Methionine			≥6m	All	10-80
Methionine:Creatinine	Urine	mmol/mol	0-W026	All	0-45
Methionine:Creatinine			≥W026	All	0-10
Microalbumin	Urine	mg/L			<20
N terminal pro BNP	Heparin plasma	ng/L	<Y060	All	<50
N terminal pro BNP			Y060-Y074	All	<100
N terminal pro BNP			≥Y075	All	<250
N-Desethylamidarone	Serum	mg/L			0.5-2.0
Non HDL Cholesterol	Serum/lithium heparin	mmol/L			None-3.5
Noradrenaline	Heparin/ EDTA plasma	nmol/L			<5
Noradrenaline	Urine, 24h	nmol/24h	<W013	All	0-53
Noradrenaline			W013- <Y001	All	0-95
Noradrenaline			Y001- Y005	All	0-183
Noradrenaline			Y006- Y015	All	0-420
Noradrenaline			≥Y016	All	0-500
Noradrenaline:Creatinine	Urine	nmol/mmol	<Y002	All	0-280
Noradrenaline:Creatinine			Y002- Y004	All	0-80
Noradrenaline:Creatinine			Y005- Y009	All	0-59
Noradrenaline:Creatinine			≥Y010	All	0-55
Normetadrenaline	Urine, 24h	µmol/24h	<W013	All	0-0.9
Normetadrenaline			W013- <Y001	All	0-0.6
Normetadrenaline			Y001- Y002	All	0-0.6
Normetadrenaline			Y003- Y007	All	0-1.4
Normetadrenaline			Y008- Y011	All	0-1.9
Normetadrenaline			≥Y012	All	0-3.3
Normetadrenaline:Creatinine	Urine	mmol/mol	<W013	All	0-2.76
Normetadrenaline:Creatinine			W012- W025	All	0-1.69
Normetadrenaline:Creatinine			W026- <1y	All	0-1.17
Normetadrenaline:Creatinine			Y001	All	0-0.60
Normetadrenaline:Creatinine			Y002- Y004	All	0-0.46
Normetadrenaline:Creatinine			Y005- Y009	All	0-0.29
Normetadrenaline:Creatinine			≥Y010	All	0-0.21

Nucleated Red Cells	EDTA whole blood				NA
Occult Blood, faecal	Faecal sample				NA
Oestradiol	Seum/heparin plasma	pmol/L	F	Follicular	40-600
Oestradiol				Mid-cycle	530-1930
Oestradiol				Luteal	120-720
Oestradiol				Post menopausal	<140
Oestradiol			M		<190
Ornithine	Plasma (lithium heparin)	µmol/L	0-W026	All	20-210
Ornithine			≥W026	All	20-100
Ornithine:Creatinine	Urine	mmol/mol	0-W026	All	0-50
Ornithine:Creatinine			≥W026	All	0-10
Osmolality	Fluid				NA
Osmolality	Serum	mmol/kg			280-295
Osmolality	Urine	mmol/kg			Not available
Oxalate	Urine, 24h	µmol/24h	<Y013	All	NA
Oxalate			≥Y014	F	40-320
Oxalate				M	80-490
Oxalate:Creatinine ratio	Urine	mmol/mol	<W051	All	4-98
Oxalate:Creatinine ratio			W052-Y004	All	4-72
Oxalate:Creatinine ratio			Y005-Y011	All	3-71
Oxalate:Creatinine ratio			≥Y012	All	1-38
Paracetamol		mg/L			10-20
pH	Fluid				NA
pH	Urine				NA
Phenobarbitone	Serum/lithium heparin	mg/L	<W01	All	<30
Phenobarbitone			≥W013	All	<40
Phenylalanine	Plasma (lithium heparin)	µmol/L	0-W026	All	40-180
Phenylalanine			≥W026	All	40-135
Phenylalanine:Creatinine	Urine	mmol/mol	0-W026	All	5-150
Phenylalanine:Creatinine			≥W026	All	5-20
Phenylalanine:Tyrosine ratio	Plasma (lithium heparin)	ratio			0.1-1.2
Phenytoin	Serum/lithium heparin	µmol/L			40-80
Phosphate	Serum/lithium heparin	mmol/L	<W006	All	1.3-2.6
Phosphate			W006-Y001	All	1.3-2.4
Phosphate			Y002-Y017	All	0.9-1.8
Phosphate			≥Y018	All	0.8-1.5
Phosphate	Urine	mmol/24h			15-50
Platelet ristocetin cofactor (RiCoF)	Blood sodium citrate	IU/dL			50-130
Potassium	Fluid				NA
Potassium	Serum/lithium heparin	mmol/L	<W006	All	4.0-7.0
Potassium			W006- <Y001	All	3.3-6.5
Potassium			Y001- Y016	All	3.5-5.5
Potassium			≥Y017	All	3.5-5.3
Potassium	Urine, 24h	mmol/24h			25-125
Progesterone	Serum/heparin plasma	nmol/L		F	Variable at different stages, contact lab

Prolactin	Serum/heparin plasma	mIU/L		F	≤800
Prolactin				M	≤600
Proline	Plasma (lithium heparin)	µmol/L	0-W026	All	60-430
Proline			≥W026	All	60-350
Proline:Creatinine	Urine	mmol/mol	0-W026	All	0-250
Proline:Creatinine			≥W026	All	None-None
Prostate Specific Antigen		µg/L	All	F	Not available
Prostate Specific Antigen			0-Y059	M	≤3.0
Prostate Specific Antigen			Y060-Y069	M	≤4.0
Prostate Specific Antigen			≥Y070	M	≤5.0
Protein	CSF	g/L	<W006	All	0.2-0.8
Protein			≥W006	All	0.15-0.45
Protein	Fluid				NA
Protein	Urine, 24h	g/24h			≤0.1
Protein:Creatinine ratio	Urine	g/mol			≤15
Protein, total	Serum/lithium heparin	g/L	<W006	All	45-75
Protein, total			W006-Y001	All	55-75
Protein, total			≥Y002	All	60-80
Protein C Assay	Blood sodium citrate	IU/dL			75-163
Protein S Assay	Blood sodium citrate	IU/dL			54-123
PT Mix Ratio	Blood sodium citrate				NA
Pyridinoline:Creatinine	Urine	µmol/mol	All	F	25-83
Pyridinoline:Creatinine				M	23-65
Pyruvate	CSF	µmol/L			6-19
Red Cell Folate	EDTA, whole blood	µg/L			75-500
Reducing Substances	Urine/faeces				Negative
Reticulocytes	EDTA whole blood	x10 <sup>9</sup> /L			50-100
Retinol-binding protein: Creatinine	Urine	mg/mol			≤18
Salicylate	Serum/lithium heparin	mg/L			≤300
Semen fructose	Semen	mmol/L	All	M	≥8.33
Serine	Plasma (lithium heparin)	µmol/L	0-W026	All	70-320
Serine			≥W026	All	70-190
Serine:Creatinine	Urine	mmol/mol	0-W026	All	25-180
Serine:Creatinine			≥W026	All	25-50
SHBG	Serum	nmol/L		F	20-125
SHBG				M	10-75
SHBG				P	NA
SHBG				U	10-125
Sickle Cell Screen	EDTA whole blood				NA
Sodium	Fluid				NA
Sodium	Serum/lithium heparin	mmol/L	<W006	All	130-145
Sodium			W006-Y017	All	132-145
Sodium			≥Y018	All	133-146
Sodium	Urine	mmol/24h			40-220
Sodium	Urine	mmol/24h			40-220
Sodium valproate	Serum	mg/L			<100
Sweat Chloride	Sweat	mmol/L	0-W025	All	0-29
Sweat Chloride			≥W026	All	<40
Sweat Conductivity	Sweat	mmol/L			0-49
Sweat Sodium	Sweat	mmol/L			<40
Taurine	Plasma (lithium heparin)	µmol/L	0-W026	All	0-260
Taurine			≥W026	All	0-140
Taurine:Creatinine	Urine	mmol/mol	0-W026	All	35-80

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Taurine:Creatinine			≥W026	All	35-160
Testosterone	Serum	nmol/L	0-W025	F	NA
Testosterone			W026-W051		<0.3
Testosterone			Y001-Y009		<0.5
Testosterone			Y010-Y015		<2.1
Testosterone			Prepubertal		<0.5
Testosterone			Post pubertal		<2.1
Testosterone		nmol/L	0-W025	M	NA
Testosterone			W026-W051		<0.2
Testosterone			Y001-Y005		<0.9
Testosterone			Y006-Y009		<1.0
Testosterone			Prepubertal		<1.0
Testosterone			Post pubertal		9.0-40.0
Theophylline	Serum/lithium heparin	mg/L	0-W004	All	5-11
Theophylline			≥W004	All	10-20
Thrombin Time	Blood sodium citrate	ratio			0.8-1.2
Thrombophilia Screen	Blood sodium citrate				NA
Thyroid (TPO) antibody	Serum/heparin plasma	kU/L			≤5.6
Total Homocysteine	EDTA/heparin plasma	µmol/L			≤15
Total human chorionic gonadotropin (HCG)	Serum/heparin plasma	IU/L	<Y013	F	<3
Total human chorionic gonadotropin (HCG)			≥Y013		<3
Total human chorionic gonadotropin (HCG)			<Y013	M	<4
Total human chorionic gonadotropin (HCG)			≥Y013		<4
Total human chorionic gonadotropin (HCG)			P, week 1		3-50
Total human chorionic gonadotropin (HCG)			P, week 2		50-500
Total human chorionic gonadotropin (HCG)			P, week 3		100-10000
Total human chorionic gonadotropin (HCG)			Normal intrauterine pregnancy		HCG doubling time is 1.5d
Total iron binding	Serum/lithium heparin	µmol/L			50-75
Transferrin	Serum/lithium heparin	g/L		F	2.2-3.4
Transferrin				M	1.9-3.3
Transferrin Satauration	Serum/lithium heparin	%		F	17-57
Transferrin Satauration				M	23-57
Triglycerides	Fluid				NA
Triglycerides	Serum/lithium heparin	mmol/L			0.5-2.0
Troponin I	Serum	ng/L		F	≤16
Troponin I				M	≤34
Tryptophan	Plasma (lithium heparin)	µmol/L	0-W026	All	15-70
Tryptophan			≥W026	All	15-100
TSH	EDTA/heparin plasma	mU/L	0-D007	All	0.45-12.0
TSH			≥D008	All	0.35-5.0
Tyrosine	Plasma (lithium heparin)	µmol/L	0-W026	All	40-195
Tyrosine			W026-Y151	All	40-100
Tyrosine:Creatinine	Urine	mmol/mol	0-W026	All	5-200
Tyrosine:Creatinine			≥W026	All	5-15

Urate	Fluid				NA
Urate	Serum/lithium heparin	µmol/L	<W006	F	120-360
Urate				M	120-430
Urate			W006-Y017	F	120-340
Urate				M	120-400
Urate			≥Y018	F	140-360
Urate				M	200-430
Urate	Urine, 24h	mmol/24h			1.5-4.5
Urate:Creatinine	Urine	mol/mol			≤0.53
Urea	Fluid				NA
Urea	Serum/lithium heparin	mmol/L	0-W005	All	1.0-5.0
Urea			W006-Y001	All	2.5-8.0
Urea			Y001-Y017	All	2.5-6.5
Urea			≥Y018	All	2.5-7.8
Urea	Urine, 24h	mmol/24h			160-580
Vancomycin	Serum/heparin plasma	mg/L	Guide range for trough level		1-15
Vanillylmandelic acid (VMA)	Urine, 24h	umol/24h	<W001	All	0-2.5
Vanillylmandelic acid (VMA)			W001- W029	All	0-5.0
Vanillylmandelic acid (VMA)			W030- <Y001	All	0-7.6
Vanillylmandelic acid (VMA)			W051- Y005	All	0-13.0
Vanillylmandelic acid (VMA)			Y006- Y011	All	0-15.0
Vanillylmandelic acid (VMA)			≥Y012	All	0-35.0
Vanillylmandelic acid:Creatinine ratio	Urine	mmol/mol	<W001	All	0-22.8
Vanillylmandelic acid:Creatinine ratio			W001- W029	All	0-9.7
Vanillylmandelic acid:Creatinine ratio			W030- <Y001	All	0-8.6
Vanillylmandelic acid:Creatinine ratio			Y001- Y002	All	0-11.0
Vanillylmandelic acid:Creatinine ratio			Y003- Y004	All	0-10.5
Vanillylmandelic acid:Creatinine ratio			Y005- Y007	All	0-10.0
Vanillylmandelic acid:Creatinine ratio			Y008- Y011	All	0-7.5
Vanillylmandelic acid:Creatinine ratio			≥Y012	All	0-3.5
Vitamin A	Serum/heparin plasma	µmol/L	<Y003	All	0.49-1.43
Vitamin A			Y003-Y005	All	0.56-1.47
Vitamin A			Y006-Y008	All	0.66-2.00
Vitamin A			Y009-Y011	All	0.77-2.06
Vitamin A			Y012-Y013	All	0.84-2.20
Vitamin A			Y014-Y015	All	0.94-2.65
Vitamin A			≥Y016	All	1.40-3.84
Vitamin B12	Serum	ng/L			200-910
Vitamin E	Serum/heparin plasma	µmol/L	<Y003	All	0.0-25.0
Vitamin E			Y003-Y005	All	7.0-30.1
Vitamin E			Y006-Y008	All	10.0-34.8
Vitamin E			Y009-Y011	All	13.9-32.5
Vitamin E			Y012-Y013	All	10.9-34.8
Vitamin E			Y014-Y015	All	13.9-32.5
Vitamin E			≥Y016	All	11.6-41.8