



Clinical Pathology Tests

1.25 DIHYDROXYCHOLICALCIFEROL SEE VITAMIN D

3-ALPHA-ANDROSTANDIOL GLUCURONIDE

7246

REQUIREMENT: 2 ml serum, **FROZEN**

REF. RANGE:

Female: 0,15-7,53 ng/mL

Male: 1,68-35,30 ng/mL

METHOD: RIA

SET-UP: once weekly

RESULTS READY: two days later

5-OH-TRYPTOPHAN

REQUIREMENT: 2 ml EDTA plasma **FROZEN**

REF. RANGE: <0.01 mg/dL

METHOD: LC-MS

SET-UP: once weekly

RESULTS READY: two days later

5-S-CYSTEINYLDOPA

13972

REQUIREMENT: 3 ml EDTA plasma, **FROZEN**

FREEZE IMMEDIATELY

REF. RANGE:

Normal: <2.0 µg/L

Borderline: 2.0-3.2 µg/L

Melanoma possible: >3.2 µg/L

METHOD: HPLC

SET-UP: once weekly

RESULTS READY: two days later

7- DEHYDROCHOLESTEROL

25155

REQUIREMENT: 2 ml EDTA plasma **FROZEN**

REF. RANGE: < 2.86 µmol/L

METHOD: GC/MS

SET-UP: once weekly

RESULT READY: two days later

8-OH-2-DESOXYGUANOSINE

14094

REQUIREMENT: 10 ml urine, **FROZEN**

REF. RANGE:

Preliminary range: 0.1-3.5 µmol/mol crea

METHOD: LC-MS

SET-UP: once weekly

RESULTS READY: two days later

11-DESOXYCORTISOL (COMPOUND S)

15867

REQUIREMENT: 2 ml serum, **FROZEN**

REF. RANGE: see report

METHOD: RIA



SET-UP: Wednesdays

RESULTS READY: same day

ABETA RATIO

REQUIREMENT: 8 ml CSF **FROZEN**

REF. RANGE: see report

METHOD: EIA

SET-UP: on request

RESULT READY: 7 days later

ACTH - ADRENOCORTICOTROPIC HORMONE (INTACT)

12556

REQUIREMENT: 1 ml EDTA plasma; centrifuge cool and freeze immediately.

SEND FROZEN.

REF. RANGE: 10-48 pg/mL

METHOD: CLEIA

SET-UP: daily

RESULTS READY: same day

Note: The stability for this analysis is greatly reduced at room temperature. It is vital that immediately after collection, the EDTA blood sample be kept chilled in an ice bath until centrifuged at 4°C. The plasma must then be frozen immediately and freeze-thaw cycles avoided.

ACYLCARNITINE STRUCTURE (S)

6417

REQUIREMENT: 1 ml serum, freeze immediately SEND FROZEN

Important: Whenever this test is requested it is vital that the patient's date of birth is quoted on the request form.

REF. RANGE:

L-Carnitine, total:

Female: 1 day: 23.3-67.9 µmol/L 2-28 days: 17.4-58.7 µmol/L 29 days – 1 year: 38.1-68.0 µmol/L 1-10 years: 27.8-83.6 µmol/L 10-17 years: 33.7-77.5 µmol/L >18 years: 29.0-61.0 µmol/L Male: 1 day: 23.3-67.9 µmol/L 2-28 days: 17.4-58.7 µmol/L 29 days – 1 year: 38.1-68.0 µmol/L 1-10 years: 27.8-83.6 µmol/L 10-17 years: 33.7-77.5 µmol/L >18 years: 33.0-72.0 µmol/L

LL-Carnitine, free: Female: 1-7 days: 10.1-36.0 µmol/L 8-28 days: 12.3-46.2 µmol/L 29 days – 1 year: 26.9-49.0 µmol/L 1-17 years: 21.6-66.4 µmol/L >18 years: 20.0-47.0 µmol/L Male: 1-7 days: 10.1-36.0 µmol/L 8-28 days: 12.3-46.2 µmol/L 29 days – 1 year: 26.9-49.0 µmol/L 1-17 years: 21.6-66.4 µmol/L >18 years: 20.0-59.0 µmol/L

Acylcarnitine:
Female:

1 day: 7.0-36.6 µmol/L

2-7 days: 2.9-23.8 µmol/L

8-28 days: 4.1-14.5 µmol/L

29 days – 1 year: 7.4-19.0 µmol/L

1-18 years: 3.1-32.1 µmol/L

>18 years: 3.2-20.0 µmol/L

Male:

1 day: 7.0-36.6 µmol/L

2-7 days: 2.9-23.8 µmol/L

8-28 days: 4.1-14.5 µmol/L

29 days – 1 year: 7.4-19.0 µmol/L

1-18 years: 3.1-32.1 µmol/L

>18 years: 1.3-19.0 µmol/L

METHOD: REA



SET-UP: once weekly
RESULTS READY: next day

ACYLCARNITINE STRUCTURE (U)

7552

REQUIREMENT: 10 ml of a 24h urine use our boric acid tubes, adjust to pH 3-9. Please state 24h urine volume.

Freeze immediately SEND FROZEN

REF. RANGE:

L-Carnitine, total: 72-600 µmol/24h

L-Carnitine, free: 35-410 µmol/24h

Acylcarnitine: 10-220 µmol/24h

METHOD: REA

SET-UP: Tuesdays

RESULTS READY: next day

ADAMTS-13

INCLUDES: ADAMTS-13 antigen, ADAMTS-13 activity, ADAMTS 13 abs.

REQUIREMENT: 5 ml citrate plasma FROZEN

PREANALYTIC: Centrifuge 5 ml of citrate blood after sampling, transfer supernatant citrate plasma into a new tube, label accordingly and freeze within 2 hours (dispatch frozen).

REF.RANGE: see report

METHOD: ELISA

SET-UP: on request

RESULTS READY: 3 - 4 weeks later

ADH (INCLUDES OSMOLALITY)

ADMA (Asymmetric Dimethylarginine)

REQUIREMENT: 2 ml serum, **FROZEN**

REF. RANGE: 50 - 110 mcg/L

METHOD: LC-MS

SET-UP: on request

RESULTS READY: 10 days later

AFP (ALPHA-I-FETOPROTEIN) (AF)

7300

REQUIREMENT: 2 ml amniotic fluid; **FROZEN**. Please state week of pregnancy

REF. RANGE:

Adults: <10 IU/mL

After birth: 33.000-100.000 IU/mL

After 4-6 wks as for Adults: <15 IU/mL

Borderline: 10-20 IU/mL

In pregnancy:

w.o.g.	median	2xmedian
14th week:	17200	34400 IU/mL
15th week:	16100	32200 IU/mL
16th week:	14200	28400 IU/mL
17th week:	12100	24200 IU/mL
18th week:	10200	20400 IU/mL
19th week:	8270	16540 IU/mL
20th week:	6800	13600 IU/mL
21st week:	5500	11000 IU/mL
22nd week:	4320	8640 IU/mL

METHOD: ILMA

SET-UP: daily

RESULTS READY: same day

NOTE: Values above the 2-fold median indicate a neural tube or abdominal wall defect. In such cases, acetylcholinesterase and a special ultrasound should be performed.

AJMALIN

7282

REQUIREMENT: 1 ml serum

REF. RANGE: therapeutic range: 0.05-1.0 µg/mL

METHOD: HPLC

SET-UP: once weekly

RESULTS READY: two days later

ALBENDAZOLE-SULPHOXID

24955

REQUIREMENT: 1 ml serum or EDT plasma

REF. RANGE:

Therapeutic range: 500 – 1500 ng/ml

Preliminary toxic value > 3000 ng/ml

(determination of the active metabolite Albendazole-sulfoxide)

METHOD: HPLC

SET-UP: twice weekly

RESULT READY : same day

ALDOSTERONE /RENIN RATIO

13749

Please request Aldosterone and Renin and write clearly on the request form Aldosterone/Renin ratio

Pre-analysis and sampling for determination of the ARR

The patient should have been in an erect position (sitting, standing, or walking) for at least 2 h before blood sampling. Blood (EDTA blood) to be collected from the patient in an erect sitting position between 8 and 10 o'clock in the morning after a 15-min phase at rest in a sitting position. Since hypokalaemia leads to false negative results, this must be compensated for beforehand through potassium supplementation. There should be no restriction of sodium in the period before blood sampling (sufficient salt). Obtain 2 ml EDTA plasma by centrifuging the EDTA blood. Transfer the EDTA plasma into a new tube labelled with a bar code with the name of the material ("EDTA plasma") and patient data on.

Send to Bioscientia FROZEN. Some antihypertensives should be discontinued for a certain period before blood sampling.

Request on the request form as Aldosterone/Renin ratio

Medication group recommended break

Increase in aldosterone/renin ratio (false-positive results)

Beta receptor blockers: at least 2 weeks

Imidazoline receptor antagonists (e.g. clonidine): at least 2 weeks

Decrease in aldosterone/renin ratio (false-negative results):

Thiazide diuretics -

Loop diuretics: at least 2 weeks

ACE inhibitors: at least 2 weeks

Calcium antagonists -

Alpha receptor blockers (e.g. doxazosin) -

Angiotensin II antagonists (sartans): at least 2 weeks

Spironolactone, eplerenone, drospirenone, amiloride, triamterene: at least 4 weeks.

ALDOSTERONE-18-GLUCURONIDE

5916

REQUIREMENT: 10 ml 24h urine. The urine should be kept cool during 24hr collection and the aliquot should be transported frozen.

Please state 24h urine volume.



REF. RANGE:

Adults: 3.5- 20.0 µg/24h

Children: 1.0.-8.0 µg/24h

SET-UP: every two weeks

RESULTS READY: two days later

ALPHA-1-ANTITRYPSIN (F) (QUANT)

16992

REQUIREMENT: 5 g faeces, **FROZEN**

REF. RANGE: < 0,3 mg/g faeces

METHOD: Nephelometry

SET-UP: once weekly

RESULTS READY: two weeks later

ALPHA-2 ANTIPLASMIN

7297

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

REF. RANGE: 80-120%

SET-UP: once weekly

METHOD: photometric

RESULTS READY: two days later

NOTE: Always send a separate sample for this test

ALPHA GLUCOSIDASE

7281

REQUIREMENT: 1 ml sperm, **FROZEN**

REF. RANGE: >10 U/L

METHOD: photometry

SET-UP: on request

RESULTS READY: approx. 11 days later

AMINO ACIDS IN PLASMA (QUANTITATIVE)

7992

Requirement: 2ml EDTA plasma (NOT heparin plasma). Centrifuge immediately. Plasma may be stored at +4°C for no more than 2 days prior to shipping. **SEND FROZEN.**

Method: automated amino acid analyser

Bioscientia Test List Frozen Samples 2019

Set-up: once weekly

Result ready: approx. 2 days later

IMPORTANT! For this test it is imperative that the patient's date of birth is quoted on the request form. The results are age dependent!

Reference ranges (in $\mu\text{mol/L}$)

Amino acid	0—1 Month	1-24 Months	2-18 Years	Adult
Phosphoserine	7—47	1-20	1-30	2—14
Taurine	46-492	15-143	10-170	54—210
Phosphoethanolamine	3—27	0-6	0-69	0—40
Aspartic acid	20-129	0-23	1-24	1—25
Hydroxyproline	0—91	0-63	3-45	0—53
Threonine	90-329	24-174	35-226	60—225
Serine	99-395	71-186	69-187	58—181
Asparagine	29-132	21-95	23-112	35—74
Glutamic acid	62-620	10-133	5-150	10—131
Glutamine	376-709	246-1182	254-823	205—756
Sarcosine	0-625	0	0-9	0
Alpha-Aminoadipic acid	0	0	0	0—6
Proline	110-417	52-298	59-369	97—329
Glycine	232-740	81-436	127-341	151—490
Alanine	131-710	143-439	152-547	177—583
Citrulline	10-45	3-35	1-46	12—55
Alpha-Aminobutyric acid	8—24	3-26	4-31	5—41
Valine	86-190	64-294	74-321	119—336
Cystine	17-98	16-84	5-45	5—82
Methionine	10-60	9-42	7-47	10—42
Cystathionine	0—3	0-5	0-3	0—3
Isoleucine	26-91	31-86	22-107	30—108
Leucine	48-160	47-155	49-216	72—201
Tyrosine	55-147	22-108	24-115	34—112
Phenylalanine	38-137	31-75	26-91	35—85
Amino acid	0-1 Month	1-24 Months	2-18 Years	Adult
Beta-Alanine	0—10	0-7	0-7	0—12
Gamma-Aminobutyric acid	0—2	0	0	0
Ethanolamine	0-115	0-4	0-7	0—153

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Tryptophan	0—60	23-71	0-79	10—140
Hydroxylysine	0—7	0-7	0-2	0
Ornithine	48-211	22-103	10-163	48—195
Lysine	92-325	52-196	48-284	0—390
1-Methylhistidine	0—43	0-44	0-42	72—124
Histidine	30-138	41-101	41-125	0—80
3-Methylhistidine	0—5	0-5	0-5	0
Anserine	0	0	0	0
Carnosine	0—19	0	0	0
Arginine	6-140	12-133	10-140	15—128

N.B. No reference range for homocysteine is quoted as this method is unsuitable for determining total homocysteine in plasma.

Bioscientia Test List Frozen Samples 2019

AMINO ACIDS IN URINE (QUANTITATIVE)

7994

Requirement: 10 ml random urine mixed with hydrochloric acid to give a pH value of 4-6. **SEND FROZEN.**

Samples sent for this test will be assayed for urinary creatinine. This is necessary for correct reference range assignment.

Method: automated amino acid analyser

Set-up: once weekly

Result ready: approx. 2 days later

IMPORTANT! For this test it is imperative that the patient's date of birth is quoted on the request form. The results are age dependent!

Reference ranges (in $\mu\text{mol}/\text{mmol}$ creatinine)

Amino acid	0-1 Month	1-6 Months	6-12 Months	1-2 Years	2—4 Years	4-7 Years	7-13 Years	Over 13 Years
Phosphoserine	0	0	0	0	0	0	0	0
Taurine	8—226	6-89	9-123	12-159	13—200	17—230	18-230	16-180
Phosphoethanolamine	0	0	0	0	0	0	0	0
Aspartic acid	2—12	2-16	3-12	3-10	2—8	2—8	1-10	2-7
Hydroxyproline	20—320	0-143	0-22	0-13	0—13	0—13	0-13	0-13
Threonine	20—138	17-92	14-56	15-62	10—48	9—36	8-28	7-29
Serine	80 - 282	42 - 194	50 -	45 - 124	32 - 94	38 - 93	23-69	21-50
Asparagine	0-84	0-58	0-36	0-32	0—30	0—29	0-24	0-23
Glutamic acid	0-30	2-29	0-18	0-11	0—10	0—8	0-9	0-12
Glutamine	52-205	63-229	74-197	62-165	45—236	52—133	20-112	20-76
Sarcosine	0	0	0	0	0	0	0	0
Alpha-Aminoadipic acid	0	0	0	0	0	0	0	0
Proline	21-213	0-130	0-14	0-13	0—9	0—9	0-9	0-9
Glycine	283-1097	210-743	114-445	110-356	111-326	91—246	64-236	43-173
Alanine	75-244	72-206	36-162	41-130	33—115	27—92	17-65	16-68
Citrulline	0-11	0-10	0—8	0-7	0—6	0—5	0-5	0-4
Alpha-Aminobutyric acid	0-9	0-7	0—8	0-8	0—6	0—5	0-5	0-4
Valine	3-26	4-19	6-19	7-21	6—20	3—15	3-17	3-13
Cystine	12-39	7-24	6-15	5-13	4—15	4—11	4-12	3-17
Methionine	7-27	6-22	8-29	7-29	5—21	5—20	3-17	2-16
Cystathionine	0	0	0	0	0	0	0	0
Isoleucine	0-6	0-5	0—6	0-6	0—5	0—5	0-6	0-4
Leucine	3-25	4-12	4-16	3-17	4—18	3—13	3-16	2-11
Tyrosine	6-55	12-52	11-54	13-48	10—30	9—35	6-26	2-23



Bioscientia Test List Frozen Samples 2019

Phenylalanine	4-32	7-28	11-28	10-31	7—21	6—26	5-20	2-19
Amino acid	0-1 Month	1-6 Months	6-12 Months	1-2 Years	2—4 Years	4-7 Years	7-13 Years	Over 13 Years
Beta-Alanine	0	0	0	0	0	0	0	0
Beta-Aminoisobutyric acid	0-87	0-216	0-226	0-206	0—175	0—59	0-85	0-91
Gamma-Aminobutyric acid	0	0	0	0	0	0	0	0
Ethanolamine	0	0	0	0	0	0	0	0
Tryptophan	0	0	0	0	0	0	0	0
Hydroxylysine	0	0	0	0	0	0	0	0
Lysine	22-171	15-199	13-79	16-69	10—46	10—68	10-56	7-58
1-Methylhistidine	0	0	0	0	0	0	0	0
Histidine	80-295	72-342	92-278	87-287	68—255	61—216	43-184	26-153
3-Methylhistidine	20-39	19-40	20-47	22-57	20—59	21—61	18-59	19-47
Anserine	0	0	0	0	0	0	0	0
Carnosine	0	0	0	0	0	0	0	0
Arginine	0-14	0-11	0-11	0-8	0—9	0—7	0-6	0-5

N.B. If urinary amino acids are detected for which no reference range is given, then the result is to be interpreted as 'abnormal' or possibly disease-specific

AMINO ACIDS IN CSF (QUANTITATIVE)
7991

Requirement: Minimum 1 ml csf, **FROZEN**. Sample cannot be used if heavily blood-stained. If only slightly blood-stained, then centrifuge and remark on request form.

This test should be performed together with a quantitative amino acid analysis in plasma. Send both samples together FROZEN.

Method: automated amino acid analyser

Set-up: once weekly

Result ready: approx. 2 days later

IMPORTANT! For this test it is imperative that the patient's date of birth is quoted on the request form.

Reference ranges (in $\mu\text{mol/L}$)

Amino acid	Adult (only)	Amino acid	Adult (only)
Phosphoserine	0	Isoleucine	3.4-13.4
Taurine	4.4-12.4	Leucine	10.4-26.8
Phosphoethanolamine	0	Tyrosine	5.3-13.3
Aspartic acid	0.4-5.2	Phenylalanine	6.7-18.3
Hydroxyproline	0	Beta-Alanine	0
Threonine	22.2-52.6	Beta-Aminoisobutyric acid	0
Serine	18.7-37.5	Gamma-Aminobutyric acid	0
Asparagine	<17.9	Ethanolamine	0
Glutamic acid	0	Tryptophan	0
Glutamine	356—680	Hydroxylysine	0
Sarcosine	0	Ornithine	3.0-9.0
Alpha-Aminoadipic acid	0	Lysine	20.1-42.9
Proline	0	1-Methylhistidine	0
Glycine	2.2-14.2	Histidine	11.4-22.2
Alanine	13.4-48.2	3-Methylhistidine	0
Citrulline	0.8-4.8	Anserine	0
Alpha-Aminobutyric acid	1.5-7.1	Carnosine	0
Valine	10.1-37.7	Arginine	13.1-35.1
Cystine	0		
Methionine	<9.3		
Cystathionine	0		

PS. Results for those amino acids for which no reference ranges are given are to be interpreted as 'abnormal' or disease-specific

Please note: This test should be performed together with a quantitative amino acid analysis in plasma if the patient is suspected of having non-keotic hyperglycinaemia'.

AMMONIA (P)

5073

REQUIREMENT: 1 ml EDTA plasma, centrifuge and freeze immediately. **SEND FROZEN**

REF RANGE:

Children:

0-10 days: 170-341 $\mu\text{g/dl}$

10 days-2 years: 68-136 $\mu\text{g/dl}$

>2years – 17 years: 19-60 $\mu\text{g/dl}$

Female: 19-82 mcg/dL

Male: 25-94 mcg/dL

METHOD: UV photometry

SET-UP: daily

RESULTS READY: same day



AMPHOTERICIN B

7999

REQUIREMENT 2 ml serum, **FROZEN**

REF. RANGE:

Trough: 0.03-1.0 µg/mL

Peak: 1.5-3.0 µg/mL

Toxic: > 5 µg/mL

METHOD: LC-MS

SET-UP: once weekly

RESULTS READY: two days later

Androstandiole Glucuronide

7246

REQUIREMENT: 1 ml serum FROZEN

REF. RANGE:

Female:

<3 years: 7 – 60 ng/100ml

4-5 years: 7 – 155 ng/100ml

6-7 years: 7 – 330 ng/100ml

8-9 years: 7 – 140 ng/100ml

10-11 years: 7 – 340 ng/100ml

12-13 years: 78 – 441 ng/100ml

14-15 years: 73 – 760 ng/100ml

16-20 years: 113 – 732 ng/100ml

> 20 years: 15 – 753 ng/100ml

Male:

<3 years: 7 – 80 ng/100ml

4-5 years: 7 – 70 ng/100ml

6-7 years: 7 – 399 ng/100ml

8-9 years: 7 – 220 ng/100ml

10-11 years: 7 – 311 ng/100ml

12-13 years: 7 – 737 ng/100ml

14-15 years: 131 – 1395 ng/100ml

16-20 years: 103 – 2603 ng/100ml

> 20 years: 168 – 3530 ng/100ml

METHOD: RIA

SET-UP: once weekly

REPORT READY: same day

ANDROSTENDIONE

6873

REQUIREMENT: 1 ml serum FROZEN

REF. RANGE: see report (gender and age related)

METHOD: Immulite 2000 by Siemens

SET-UP: daily

RESULT READY: same day

ANEMIA DUE TO BLOOD LOSS/ANEMIA DUE TO BLEEDING SCREEN

Screen includes: CBC, Reticulocyte, Hemoglobin/Haptoglobin Complex, oFOBt (Hemoglobin immunological), CRP

REQUIREMENT: 5ml EDTA blood, Faeces **frozen**

REFERENCE RANGE: see report

SET-UP: daily

RESULT READY: one week later



ANGIOTENSIN-1-CONVERTING ENZYME (ACE) (S)

5492

REQUIREMENT: 2 ml serum, FROZEN

REF. RANGE: 20 - 70 U/L

METHOD: kinetic, enzymatic test

SET-UP: Mondays, Wednesdays, Fridays

RESULTS READY: next day

ANGIOTENSIN CONVERTING ENZYME (ACE) (CSF)

8073

REQUIREMENT: 2 ml csf, **FROZEN**

REF. RANGE:

Normal brain function: <2.0 U/L

METHOD: photometricRIA

SET-UP: once weekly

RESULTS READY: two days later

ANTI FACTOR Xa ACTIVITY, APIXABAN (CP)

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

PLEASE NOTE:

Draw blood into the citrate tube exactly up to the marking and carefully swirl a few times to avoid clotting.

After 30 minutes centrifuge for a minimum of 15 minutes by 1500 rotation.

Carefully take the plasma with a pipette and place it into a sterile tube.

Label tube as citrate plasma.

Freeze and send frozen.

REF. RANGE: see report

METHOD: turbidimetry

SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday

RESULT READY: 4 days later

ANTI FACTOR Xa ACTIVITY, FONDAPARINUX (CP)

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

PLEASE NOTE:

Draw blood into the citrate tube exactly up to the marking and carefully swirl a few times to avoid clotting.

After 30 minutes centrifuge for a minimum of 15 minutes by 1500 rotation.

Carefully take the plasma with a pipette and place it into a sterile tube.

Label tube as citrate plasma.

Freeze and send frozen.

REF. RANGE: see report

METHOD: chromogen

SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday

RESULT READY: 10 days later

Please indicate the anticoagulant used

NOTE: please draw the blood 4 hours after application

ANTI FACTOR Xa ACTIVITY, LMW HEPARINS (CP)

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

PLEASE NOTE:

Draw blood into the citrate tube exactly up to the marking and carefully swirl a few times to avoid clotting.

After 30 minutes centrifuge for a minimum of 15 minutes by 1500 rotation.

Carefully take the plasma with a pipette and place it into a sterile tube.

Label tube as citrate plasma.

Freeze and send frozen.

REF. RANGE: see report

METHOD: chromogen

SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday



RESULT READY: 10 days later

Please indicate the anticoagulant used

NOTE: please draw the blood 4 hours after application

ANTI FACTOR Xa ACTIVITY, RIVAROXABAN (CP)

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

PLEASE NOTE:

Draw blood into the citrate tube exactly up to the marking and carefully swirl a few times to avoid clotting.

After 30 minutes centrifuge for a minimum of 15 minutes by 1500 rotation.

Carefully take the plasma with a pipette and place it into a sterile tube.

Label tube as citrate plasma.

Freeze and send frozen.

REF. RANGE: see report

METHOD: chromogen

SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday

RESULT READY: 10 days later

Please indicate the anticoagulant used

NOTE: please draw the blood 4 hours after application

ANTI MULLERIAN HORMONE

15722

REQUIREMENT: 2 ml Serum, **FROZEN**

REF. RANGE:

Female, fertile phase: up to 12,6 µg/l

Female after menopause: not detectable

Adult, Male: 1,3 – 14,8 µg/l

METHOD: ECLIA

SET-UP: daily

RESULT READY: next day

ANTI PLATELET ABS BOUND & FREE SEE POLATELET ABS BOUND & FREE

ANTI STREPTOLYSIN (ASL)

16674

REQUIREMENT: 2ml serum, **FROZEN**

REF. RANGE:

< 6 years; 0 – 150 U/mL

<18 years: 0 – 240 U/mL

<120 years: 0 – 200 U/mL

METHOD: Nephelometric

SET-UP: daily

RESULTS READY: same day

ANTI THROMBIN (AT)

5687

REQUIREMENT: 2 ml citrate plasma, **FROZEN**

REF. RANGE FOR ADULTS: 75-125%

METHOD: chromogenic substrate

SET-UP: daily

RESULTS READY: same day

NOTE: Always send a separate sample for this test

NOTE: For children this test is reported age-related. Please quote d.o.b.

AP 50 (AH 50)

REQUIREMENT: serum **FROZEN**



REF. RANGE: 30 – 113%
METHOD: ELISA
SET-UP: once weekly
RESULT READY: 2 days later

APC RESISTANCE (ACTIVATED PROTEIN C RESISTANCE)

21830

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

REF. RANGE: >2.4 ratio

METHOD: photometric

SET-UP: daily

RESULTS READY: same day

NOTE: If the patient is on Coumarin this should be stopped 7 full days before sample is drawn and sent; if on Heparin stop 4 full days before. Always send a separate sample for this test.

APIXABAN

REQUIREMENT: citrate plasma **frozen**

PLEASE NOTE:

Draw blood into the citrate tube exactly up to the marking and carefully swirl a few times to avoid clotting.

After 30 minutes centrifuge for a minimum of 15 minutes by 1500 rotation.

Carefully take the plasma with a pipette and place it into a sterile tube.

Label tube as citrate plasma

Freeze and send frozen

REF. RANGE: see report

METHOD: LC-MS/MS

SET-UP: once weekly

RESULT READY: one week later

aPTT (activated partial thromboplastin time)

REQUIREMENT: 3 ml citrate plasma, **FROZEN**

REF. RANGE: see report

SET-UP: daily

RESULTS READY: same day

NOTE: Always send a separate sample for this test

NOTE: For children this test is reported age-related. Please quote d.o.b.

ASPERGILLUS ANTIGEN

5879

REQUIREMENT: 1 ml serum **(if sending BAL it must be sent frozen)**

REF. RANGE: <0.5 - negative

METHOD: EIA

SET-UP: Tuesdays

RESULTS READY: seven days later

BACLOFEN

REQUIREMENT: 1 ml serum **frozen**

REF. RANGE: 800 – 600 ng/mL

Toxic: > 1100 ng/ml

METHOD: LC-MS/MS

SET-UP: once weekly

RESULTS READY: two days later

β-CROSSLAPS (CTX)

5431

REQUIREMENT: 1 ml serum; FROZEN

REF. RANGE:

Female:

30-45 years and post-menopausal: < 0.57 ng/mL

Male:

30-50 years: < 0.58 ng/mL

51-70 years: < 0.70 ng/mL

71-98 years: < 0.85 ng/mL

Dialysis patients (with normal bone degradation): 0.5-2.1 ng/mL

Note: High levels of β-crosslaps indicate increased bone degradation. In such cases, we suggest the analysis of Vitamin D (25-hydroxy-cholecalciferol).

Possible causes of increased bone degradation include hyperthyroidism, hyperparathyroidism and glucocorticoid therapy. To monitor anti-resorption therapy, we suggest the analysis of ostease (bone specific alkaline phosphatase) together with β-crosslaps.

METHOD: ECLIA

(ECLIA: ElectroChemiluminescence Immuno Assay)

SET-UP: daily

RESULTS READY: same day

BETA-2-GLYCOPROTEIN IGA ABS

12324

REQUIREMENT: 1 ml serum

REF. RANGE FOR BOTH: < 20 U/mL

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: same day

BETA 2-MICROGLOBULIN (S)

22270

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: 0.9-2.0 mg/L

METHOD: CLIA

SET-UP: daily

RESULTS READY: same day

BETA 2-MICROGLOBULIN (U)

22271

REQUIREMENT: 10 ml urine, **FROZEN**

Please send spontaneous urine from the day, because first morning urine usually has a pH < 6.0. If the pH of the urine is not between 6.0 and 7.5, please neutralize with 0.5 M NaOH or 0.1 M sodium hydrogen carbonate.

REF. RANGE: < 300 µg/L

METHOD: CLIA

SET-UP: daily

RESULTS READY: same day

BETA AMYLOID 1-42

17906

REQUIREMENT: 2 ml csf, **FROZEN**

REF. RANGE: not detectable

Beta amyloid peptide (1-42) is a marker for senile plaques and is related to neuronal damage in cases of dementia. Decreased values in csf are found in Alzheimer dementia, cerebral amyloidangiopathies and Lewy bodies dementia.

SET-UP: once weekly
RESULTS READY: two days later

BIOTIN (VITAMIN H)

12331

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: > 250 pg/mL

METHOD: EIA

SET-UP: Wednesday

RESULTS READY: 10 days later

BIOTINIDASE QUANT

8221

REQUIREMENT: 2 ml serum, **FROZEN**

REF. RANGE: 4.2-12.8 nmol/ml/min

METHOD: enzymatic

SET-UP: once weekly

RESULTS READY: 9 days later

NOTE: Always send a separate sample for this test

BLEEDING DISORDER DIAGNOSTIC

Tests included: INA, aPTT, Fibrinogen, Factor VIII, FACTOR IX, FACTOR VII, FACTOR XIII, blood count, vWF:AG, FVIII / vWF AG- Quotient, vWF: Ac, vWF AC/ vWF AG- Quotient

REQUIREMENT: 2 ml citrate plasma **FROZEN and** 5ml EDTA blood

REF. RANGE/Interpretation: see report

SET-UP: once weekly

RESULT READY: next day

BRUCELLA ssp. DNA PCR

REQUIREMENT: 2ml EDTA blood or 1ml CSF or 10ml urine (room temperature),

as for tissue/biopsy please send **FROZEN**

REF. RANGE: approx. 100 – 500 copies

METHOD: PCR

SET-UP: once weekly

RESULT READY: two days later

BUPROPION (ZYBAN)

16784

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: see report

METHOD: LC-MS/MS

SET-UP: once weekly

RESULTS READY: two days later

C-PEPTIDE

18684

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: 1.1-4.4 ng/mL (after 12hrs fasting)

METHOD: ECLIA

SET-UP: daily

RESULTS READY: same day

C1-ESTERASE INHIBITOR (ACTIVITY)

5061

REQUIREMENT: 2 ml citrate plasma **FROZEN**

REF. RANGE: 70-130%



METHOD: coagulation chromogen
SET-UP: Tuesdays, Thursdays
RESULTS READY: same day

C1Q COMPLEMENT COMPONENT

8044
REQUIREMENT: 1 ml serum or heparin plasma FROZEN
REF. RANGE: 20-250 mg/L
METHOD: nephelometric
SET-UP: once weekly
RESULTS READY: two days later

C2 COMPLEMENT COMPONENT

REQUIREMENT: 1 ml serum, FROZEN
REF. RANGE: 14-25 mg/L
No reference range available for children at present
METHOD: RID
SET-UP: 3x/week
RESULTS READY: 8 days later

C3 COMPLEMENT COMPONENT

5037
REQUIREMENT: 1 ml serum FROZEN
REF. RANGE:
Adults and children >6 months: 0.9-1.8 g/L
Children <3 months: 0.6-1.5 g/L
Children 4-6 months: 0.7-1.6 g/L
METHOD: RID
SET-UP: daily
RESULTS READY: same day
NOTE: Specimens older than 2-3 days before reaching us should be sent frozen

C3-NEPHRITIC FACTOR

5100
REQUIREMENT: 1 ml serum, FROZEN
REF. RANGE: negative
METHOD: Immunoelectrophoresis
RESULTS READY: two to three weeks

C4 COMPLEMENT COMPONENT

5038
REQUIREMENT: 1 ml serum FROZEN
REF. RANGE:
Adults and Children >6 months: 0.1-0.4 g/L
Children <3 months: 0.07-0.3 g/L
Children 3-6 months: 0.008-0.3 g/L
SET-UP: daily
RESULTS READY: same day
NOTE: Specimens older than 2-3 days before reaching us should be sent frozen

C5 COMPLEMENT COMPONENT

16260
REQUIREMENT: 1 ml serum, frozen
REF. RANGE:
Male: 90-170 mg/L
Female: 100-170 mg/mL



METHOD: RID
SET-UP: once weekly
RESULTS READY: two days later

C6 COMPLEMENT COMPONENT

REQUIREMENT: 1 ml serum, FROZEN
REF. RANGE: 80-120%
METHOD: RID
SET-UP: once weekly
RESULTS READY: two days later

C7 COMPLEMENT COMPONENT

REQUIREMENT: 1 ml serum, FROZEN
REF. RANGE: 80-120%
METHOD: RID
SET-UP: once weekly
RESULTS READY: two days later

C8 COMPLEMENT COMPONENT

REQUIREMENT: 1 ml serum, FROZEN
REF. RANGE: 80-120%
METHOD: RID
SET-UP: once weekly
RESULTS READY: two days later

C9 COMPLEMENT COMPONENT, FROZEN

REQUIREMENT: 1 ml serum
REF. RANGE: 80-120%
METHOD: RID
SET-UP: once weekly
RESULTS READY: two days later

CALCITONIN

REQUIREMENT: 1 ml serum, FROZEN
REF. RANGE:
Female: <5.0 pg/mL
Male: <8.4 pg/mL
METHOD: CLEIA
SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday
RESULTS READY: 1 day later

CALPROTECTIN

REQUIREMENT: 1-2 gr. faeces, **FROZEN**
The stool collection should be made void of any household cleaners/detergents as they can influence the analysis. Stool tubes available on request.
REFERENCE RANGE:
0-3 months: < 620 mg/l
3-6 months: < 990 mg/l
6-12 months: < 420 mg/l
1-4 years: < 120 mg/l
> 4 years: < 50 mg/l
METHOD: ELISA
SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday
RESULTS READY: 5 days later

CARBIDOPA



REQUIREMENT: 2 ml serum **frozen**

REF. Range: 20 – 200 ng/ml

METHOD: HPLC

SET-UP: once weekly

RESULT READY: two days later

CARNITINE (L-CARNITINE), FREE (S)

5556

REQUIREMENT: 1 ml serum, freeze immediately SEND FROZEN

Important: Whenever this test is requested it is vital that the patient's date of birth is quoted on the request form.

REF. RANGE:

Female:

1-7 days: 10.1-36.0 µmol/L

8-28 days: 12.3-46.2 µmol/L

29 days – 1 year: 26.9-49.0 µmol/L

1-17 years: 21.6-66.4 µmol/L

>18 years: 20.0-47.0 µmol/L

Male:

1-7 days: 10.1-36.0 µmol/L

8-28 days: 12.3-46.2 µmol/L

29 days – 1 year: 26.9-49.0 µmol/L

1-17 years: 21.6-66.4 µmol/L

>18 years: 20.0-59.0 µmol/L

METHOD: REA

SET-UP: Tuesdays

RESULTS READY: 8 days later

NOTE: See also Acylcarnitine structure

CARNITINE, FREE (L-CARNITINE) (SPERM)

5557

REQUIREMENT: 2 ml sperm, FROZEN

REF. RANGE: 150 - 517 µmol/L

METHOD: REA

SET-UP: Tuesdays

RESULTS READY: 8 days later

CARNITINE, FREE (L-CARNITINE) (U)

5559

REQUIREMENT: 10 ml of a 24h urine use our boric acid tubes, adjust to pH 3-9. Please state 24h urine volume.

Freeze immediately SEND FROZEN

REF. RANGE: 35-410 µmol/24h

METHOD: REA

SET-UP: Tuesdays

RESULTS READY: 8 days later

NOTE: See also Acylcarnitine structure

CARNITINE, TOTAL (L-CARNITINE) (S)

6416

REQUIREMENT: 2 ml serum, FROZEN

Important: Whenever this test is requested it is vital that the patient's date of birth is quoted on the request form.

REF. RANGE:

Female:

1 day: 23.3-67.9 µmol/L

2-28 days: 17.4-58.7 µmol/L



29 days – 1 year: 38.1-68.0 µmol/L

1-10 years: 27.8-83.6 µmol/L

10-17 years: 33.7-77.5 µmol/L

>18 years: 29.0-61.0 µmol/L

Male:

1 day: 23.3-67.9 µmol/L

2-28 days: 17.4-58.7 µmol/L

29 days – 1 year: 38.1-68.0 µmol/L

1-10 years: 27.8-83.6 µmol/L

10-17 years: 33.7-77.5 µmol/L

>18 years: 33.0-72.0 µmol/L

METHOD: REA

SET-UP: Tuesdays

RESULTS READY: 8 days later

NOTE: See also Acylcarnitine structure

CARNITINE, TOTAL (L-CARNITINE) (U)

7692

REQUIREMENT: 10 ml of 24h urine use our boric acid tubes, adjust to pH 3-9. Please state 24h urine volume.

Freeze immediately SEND FROZEN

REF. RANGE: 72-600 µmol/24h

SET-UP: Tuesdays

RESULTS READY: 8 days later

NOTE: See also Acylcarnitine structure

CATECHOLAMINES (P) (ADRENALINE, NORADRENALINE & DOPAMINE)

5047

REQUIREMENT: 2 ml FROZEN EDTA plasma, no longer EGTA plasma

How to obtain a sample:

1. The blood should be drawn from the patient (who is lying down) approx. 30 min. after a canula has been positioned.
2. Put 5 ml of whole blood in the EDTA tube, mix by tipping to and fro carefully and cool immediately (do not freeze yet).
3. Centrifuge cool to obtain plasma.
4. Put the plasma into a normal Bioscientia tube, add patient data, freeze and send frozen.

REF. RANGE:

Adrenaline: <82 ng/L (459 pmol/L)

Noradrenaline: <499 ng/L (2482 pmol/L)

Dopamine: < 58 ng/L (560 pmol)

METHOD: HPLC

SET-UP: twice weekly

RESULTS READY: next day

NOTE: These tests are always performed together

CHROMOGRANIN A

REQUIREMENT: 1 ml serum **frozen**

REF. RANGE: < 102 µg/L

METHOD: Trace

SET-UP: Mondays, Thursdays

RESULTS READY: next day

NOTE: Increased values are found in different neuroendocrine active tumours such as pheochromocytomas, carcinoids, c-cell carcinomas, islet cell tumours, tumours of the anterior pituitary gland, small-cell bronchial carcinomas. Please note when interpreting the result that false-increased values are possible (up to 2000 µg/L) in cases of renal deficiency depending on the grade of renal damage (H.Bender et al; Clin Chem 1992;38: 2267-2272)



CIRCULATING IMMUNOCOMPLEXES

5407

REQUIREMENT: 3 ml serum, FROZEN

REF. RANGE:

C1Q - Circulating Immunocomplex: <55 µg/HAG/mL

C3d - Circulating Immunocomplex: <40 µg/HAG/mL

HAG = heat aggregated IgG

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: next day

NOTE: Sampling conditions have been changed: Please allow the blood sample to clot for 2 hours at room temperature (not in the refrigerator); please send frozen serum. Always send a separate sample for this test.

CITRATE

8304

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE: 67-142 µmol/L

No reference values available for children

METHOD: photometric

SET-UP: once weekly

RESULTS READY: two days later

CITRATE (SPERM)

5076

REQUIREMENT: 1 ml sperm, FROZEN

REF.-RANGE: 1-7 g/L

METHOD: enzymatic UV-test

SET-UP: once weekly

RESULTS READY: two days later

COAGULATION STUDY – Bleeding tendency

REQUIREMENT: 2x 5 ml citrate plasma, FROZEN

Includes: PT, PTT, Thrombin time, Factors VIII and IX, von Willebrand Ag, Fibrinogen, Factor XIII.

See under individual tests for specimen REQUIREMENT in this test list

COAGULATION STUDY – Thrombosis tendency

REQUIREMENT: 2x 5 ml citrate plasma and 5 ml serum, FROZEN

Includes: PT, PTT, Thrombin time, AT, Protein C and S, Lupus anticoagulant, Cardiolipin abs, β_2 - GP I- abs, D-Dimers, APC resistance.

See under individual tests for specimen REQUIREMENT in this test list

COCAINE CONFIRMATION (NaF Plasma FROZEN)

REQUIREMENT: NaF plasma FROZEN

REF. RANGE: not detectable

METHOD: LC-MS

SET-UP: once weekly

RESULTS READY: two days later

COENZYME Q10

REQUIREMENT: 0,5 ml serum/plasma, FROZEN, protect from light

REF. RANGE: 400 – 1600 µg/l

METHOD: HPLC

SET-UP: twice weekly

RESULTS READY: 7 days later

COMPLEMENT FACTOR H (S)

REQUIREMENT: 1 ml serum **FROZEN**



REF. RANGE: 242-759 mg/L
METHOD: RID
SET-UP: on request
RESULT READY: 12 days later

COMPLEMENT FACTOR I (S)

REQUIREMENT: 1 ml serum **FROZEN**
REF. RANGE: 39.0-100.0 mg/L
METHOD: RID
SET-UP: on request
RESULT READY: 12 days later

COMPLEX PSA STRUCTURE (C-PSA, PSA RATIO, TOTAL PSA)

5589

REQUIREMENT: 1 ml serum **frozen**

REF. RANGE:

c-PSA:

<3.2 ng/mL

total PSA: <4.0 ng/mL

PSA ratio:

Ratio <0.15: higher probability of prostate cancer

Ratio >0.25: higher probability of benign prostate hyperplasia

Ratio 0.15-0.25: control analysis suggested

METHOD: Adiva Centaur by Siemens

UP: daily

RESULTS READY: same day

Please note: This test is only offered as a structure.

COMPOUND S (11- DESOXYCORTISOL) SEE 11-DESOXYCORTISOL

COPPER IN LIVER TISSUE

REQUIREMENT: 50 mg liver tissue, FROZEN
REF. RANGE: 10-35 µg/g dry weight (or 0.16-0.55 microMol/g)
SET-UP: once weekly
RESULTS READY: one week later

CORTISOL (U)

REQUIREMENT: 10 ml 24h urine **FROZEN** use our boric acid tubes. Please state 24h urine volume.

REF. RANGE:

> 20 years: 21 - 292 µg/24h

10 - 20 years: 15 - 224 µg/24h

1 - 10 years: 6 - 123 µg/24

Up to one year: For this specific age no reference ranges are available.

METHOD: CLIA

SET-UP: daily

RESULTS READY: same day

CREATINE KINASE (CK)

52

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE:

Children: up to 154 U/L

Female: up to 167 U/L

Male: up to 190 U/L

METHOD: enzymatic

SET-UP: daily

RESULTS READY: same day

CREATINE KINASE ISOENZYME (CK-MB)

53

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE: < 24 U/L

METHOD: enzymatic

SET-UP: daily

RESULTS READY: same day

CREATINE KINASE ISOENZYMES (CK-MM, CK-BB, CK-MB)

5091

REQUIREMENT: 2 ml serum, FROZEN

REF. RANGE:

CKMM: 95-100% of CK

CKMB: 0-5% U/L

CKBB: not detectable

METHOD: electrophoresis

SET-UP: Wednesdays

RESULTS READY: next day

CYANOCOBALAMIN SEE VITAMIN B12

BIOCHEMISTRY

Amniotic Fluid Alphafetoprotein (AFP) SEE Chromosome Analysis (prenatal)

Amniotic Fluid Acetylcholinesterase (ACHE) SEE Chromosome Analysis (prenatal)

First Trimester Screening

(certified by the Fetal Medicine Foundation (FMF). Analysis includes the measurement of free β hCG and PAPP-A. Based on the results of the biochemical analysis a risk calculation for Down syndrome is performed. Facultative, the data of nuchal translucency (NT) measurement can be considered for the risk calculation (see below).

NOTE: This analysis is only possible if patient is in gestation between 11+0 – 13+6 weeks. State exact CRL (crown rump length) of the fetus, week of gestation, date of birth, weight, ethnicity and whether the patient is smoker or not.

For risk calculation including the measurement of NT, a FMF certificate is needed.

Always send a fully completed First trimester screen form with such samples

REQUIREMENT: 2 ml serum, **FROZEN**

REF-RANGE: see special report

SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday

RESULTS READY: 10 days later

DIABETES MELLITUS TYP II PROFILE

PROFILE INCLUDES THE ANALYSIS OF:

HbA1c, Insulin, C-Peptide, Glucose, Triglyceride, Ketone, Microalbumin, Cystatin C

REQUIREMENT: **2ml serum frozen** plus 2ml serum plus EDTA blood plus NaF/Citrate blood, spot urine

REF. RANGE: see report

METHOD: see singularly tests

SET-UP: daily

RESULT READY: three days later

DABIGATRAN (PRADAXA)



REQUIREMENT: 1 ml citrate plasma **FROZEN**

PLEASE NOTE:

Draw blood into the citrate tube exactly up to the marking and carefully swirl a few times to avoid clotting.

After 30 minutes centrifuge for a minimum of 15 minutes by 1500 rotation.

Carefully take the plasma with a pipette and place it into a sterile tube.

Label tube as citrate plasma.

Freeze and send frozen.

REF. RANGE: see report

METHOD: clotting

SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday

RESULT READY: 7 days later

D-DIMER

15600

REQUIREMENT: 1 ml citrate plasma **FROZEN**

REF. RANGE: 0.17 - 0.55 mg/l FEU

Borderline: 0.50-0.55 mg/l FEU

METHOD: turbidmetric

SET-UP: daily

RESULTS READY: same day

DHEA-S (DEHYDROEPIANDOSTERONE SULPHATE)

11504

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE:

Age	female µg/dl	male µg/dl
<1 week	108 - 607	108 - 607
1 – 4 week	31,6 - 431	31,6 - 431
1 – 12 month	3,4 - 124	3,4 - 124
1 – 4 years	0,5 - 19,4	0,5 - 19,4
5 – 9 years	2,8 - 85,2	2,8 - 85,2
10 – 14 years	33,9 - 280	24,4 - 247
15 – 19 years	65,1 - 368	70,2 - 492
20 – 24 years	148 - 407	211 - 492
25 – 34 years	98,8 - 340	160 - 449
35 – 44 years	60,9 - 337	88,9 - 427
45 – 54 years	35,4 - 256	44,3 - 331
55 – 64 years	18,9 - 205	51,7 - 295
65 – 74 years	9,40 - 246	33,6 - 249
>75 years	12,0 - 154	16,2 - 123

METHOD: ECLIA

SET-UP: daily

RESULTS READY: same day

DIAMINOXIDASE

Note: Determination of DAO is not suitable for pregnant women because their DAO results may be falsified. Blood should be drawn approx. after one week of consuming foods/drinks rich in histamine.

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE:

<3 U/mL: Histamine intolerance indicated

3-10 U/mL: Histamine intolerance probable

> 10 U/mL: Histamine intolerance improbable

SET-UP: daily

RESULTS READY: next day

DIPHENYLHYDANTOIN (PHENYTOIN, DILANTIN)

REQUIREMENT: 1 ml **FROZEN** serum (min: 0.3 ml sufficient for paediatric sample).

REF. RANGE: therapeutic range:

0-3 months: 6-14 µg/mL

>3 months and adults: 10-20 µg/mL

METHOD: FPIA

SET-UP: once weekly

RESULTS READY: one week later

DOPAMINE-BETA-HYDROXYLASE

8001

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: 3-100 U/L

METHOD: HPLC

SET-UP: once weekly

RESULTS READY: 10 days later

NOTE: Always send a separate sample for this test only.

EDOXABAN

REQUIREMENT: citrate plasma **frozen**

PLEASE NOTE:

Draw blood into the citrate tube exactly up to the marking and carefully swirl a few times to avoid clotting.

After 30 minutes centrifuge for a minimum of 15 minutes by 1500 rotation.

Carefully take the plasma with a pipette and place it into a sterile tube.

Label tube as citrate plasma

Freeze and send frozen

REF. RANGE: see report

METHOD: LC-MS/MS

SET-UP: once weekly

RESULT READY: one week later

ENZYME BILIRUBIN UDPG TRANSFERASE

10803

REQUIREMENT: at least 5 mg **FROZEN** liver tissue (the patient must be older than 6 months). Quote clinical data.

REF. RANGE: see report

SET-UP: once weekly

RESULTS READY: two weeks later

ESTRADIOL / OESTRADIOL

18733

REQUIREMENT: 1 ml serum **FROZEN**

REF. RANGE:

Male: < 20-43 pg/mL

Female:

Follicular phase: 13-166 pg/mL

Ovulatory phase: 86-498 pg/mL

Luteal phase: 44-211 pg/mL

Post menopausal: < 35 pg/mL

METHOD: ECLIA

SET-UP: daily

RESULTS READY: same day



ESTROGEN (OESTROGEN) RECEPTOR SEE HORMONE RECEPTORS

ESTRONE / OESTRONE

5577

REQUIREMENT: 2 ml serum, FROZEN

REF. RANGE:

Male: 18-158 pg/mL

Female:

Follicular phase: 37-138 pg/mL

Luteal phase: 50-114 pg/mL

Mid-cycle: 60-230 pg/mL

Ovulatory inhibitor: 24-83 pg/mL

Post menopausal without Estrogen therapy: 14-103 pg/mL

Post menopausal with Estrogen therapy: 40-346 pg/mL

Pregnancy:

1st trimester: 62-715 pg/mL

2nd trimester: 167-1862 pg/mL

3rd trimester: 1039-3209 pg/mL

METHOD: RIA

SET-UP: Wednesdays

RESULTS READY: 7 days later

EVEROLIMUS

REQUIREMENT: 2 ml EDTA blood **FROZEN**

REF. RANGE: 6-8 ng/mL

Therapeutic range: 1.5 - 3.5 mg/day everolimus in combination with ciclosporine and prednisolone: steady state concentration >3 ng/mL (optimum 6-8 ng/mL).

Everolimus concentrations > 10ng/mL should be avoided.

METHOD: LC-MS/MS

SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday

RESULTS READY: 2 days later

NOTE: Therapeutic range is affected by the type of transplant and by the co-medication and should be interpreted individually for each patient.

FACTOR H see COMPLEMENT FACTOR H (S)

FACTOR I see COMPLEMENT FACTOR I (S)

FACTOR II ACTIVITY

5501

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE: 70-120 %

METHOD: BCT

SET-UP: Fridays

RESULTS READY: same day

NOTE: Always send a separate sample for this test

FACTOR V ACTIVITY

5406

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE FOR ADULTS: 70-140%

METHOD: BCT

SET-UP: Fridays

RESULTS READY: same day

NOTE: Always send a separate sample for this test

NOTE: For children this test is reported age-related. Please quote d.o.b.



FACTOR VII ACTIVITY

6887

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE FOR ADULTS: 70-120%

METHOD: BCT

SET-UP: Fridays

RESULTS READY: same day

NOTE: Always send a separate sample for this test on

NOTE: For children this test is reported age-related. Please quote d.o.b.

FACTOR VIII ACTIVITY

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

REF. RANGE FOR ADULTS: 70-150%

METHOD: BCT

SET-UP: Fridays

RESULTS READY: same day

NOTE: Always send a separate sample for this test on

NOTE: For children this test is reported age-related. Please quote d.o.b.

Please note: if activity is lower than 30%, Inhibitor screen will be performed and charged for Euro 35

FACTOR VIII ACTIVITY ALSO SEE VON WILLEBRAND DIAGNOSTIC

FACTOR VIII MULTIMERS

21523

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE: see report

METHOD: electrophoresis & Immunoblot

SET-UP: once weekly

RESULTS READY: approx. one-two weeks later

FACTOR IX

5499

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE FOR ADULTS: 70-120 %

METHOD: BCT

SET-UP: Fridays

RESULTS READY: same day

NOTE: Always send a separate sample for this test only

NOTE: For children this test is reported age-related. Please quote d.o.b.

FACTOR X

5496

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE FOR ADULTS: 70-120%

METHOD: BCT

SET-UP: Fridays

RESULTS READY: same day

NOTE: Always send a separate sample for this test only

NOTE: For children this test is reported age-related. Please quote d.o.b.

FACTOR XI

5497

REQUIREMENT: 1 ml citrate plasma, FROZEN



REF. RANGE FOR ADULTS: 70-120%

METHOD: BCT

SET-UP: Fridays

RESULTS READY: same day

NOTE: Always send a separate sample for this test only

NOTE: For children this test is reported age-related. Please quote d.o.b.

FACTOR XII

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

REF. RANGE FOR ADULTS: 70-150%

METHOD: turbidimetry

SET-UP: Mondays - Fridays

RESULTS READY: three days later

NOTE: Always send a separate sample for this test only

NOTE: For children this test is reported age-related. Please quote d.o.b.

Please note: if activity is lower than 30%, Inhibitor screen will be performed and charged for Euro 35

FACTOR XIII/FIBRINOGEN

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

REF. RANGE FOR ADULTS: 70-140%

METHOD: BCT

SET-UP: Fridays

RESULTS READY: same day

NOTE: Always send a separate sample for this test only

NOTE: For children this test is reported age-related. Please quote d.o.b.

Please note: Fibrinogen is also performed and charged for

If activity is lower than 30%, Inhibitor screen will be performed and charged for Euro 35

FATTY ACIDS, NONESTERIFIED FFA (FREE FATTY ACIDS)

8708

REQUIREMENT: 1 ml serum freeze immediately SEND FROZEN.

REF. RANGE:

FEMALE

≤ 1 Year 0.5 - 1.6 mMol/l

≤ 7 Years 0.6 - 1.5 mMol/l

≤ 15 Years 0.2 - 1.1 mMol/l

≤ 120 Years 0.1 - 0.45 mMol/l

MALE

≤ 1 Year 0.5 - 1.6 mMol/l

≤ 7 Years 0.6 - 1.5 mMol/l

≤ 15 Years 0.2 - 1.1 mMol/l

≤ 120 Years 0.1 - 0.6 mMol/l

METHOD: colormetry

SET-UP: daily

RESULTS READY: same day

FETUIN A

REQUIREMENT: 1 ml serum FROZEN

REF. RANGE: 0.2-0.77 g/L

SET-UP: once weekly

RESULTS READY: two days later

FIBRINMONOMERE



8306

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE: < 5.2 mcg/ml

METHOD: Chromograph

SET-UP: once weekly

RESULT READY: two days later

FIBRINOGEN

186

REQUIREMENT: 2 ml citrate plasma, FROZEN

REF. RANGE FOR ADULTS: 180-350 mg/dL

SET-UP: daily

RESULTS READY: same day

NOTE: For children this test is reported age-related. Please quote d.o.b.

FIBRINOGEN DEGRADATION PRODUCTS (D-DIMER) SEE D-DIMER

15600

FIBRONECTINE

6632

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE: 0.25-0.40 g/L

METHOD: nephelometric

SET-UP: once weekly

RESULTS READY: two days later

NOTE: Always send a separate sample for this test.

FIBRONECTINE

6633

REQUIREMENT: 1 ml puncture fluid, FROZEN

REF. RANGE:

Benign ascites: < 75 µg/mL

Borderline 70 - 100 µg/mL

Malignant ascites: > 100 µg/mL

SET-UP: once weekly

RESULTS READY: two days later

NOTE: Always send a separate sample for this test

FOLIC ACID

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: 4,2 – 19,8 ng/mL

METHOD: ECLIA

SET-UP: daily

RESULTS READY: same day

NOTE: Folic acid cannot be tested in samples containing Ascorbic acid

FORMIC ACID

6896

REQUIREMENT: 10 ml urine, FROZEN

REF. RANGE:

1st morning urine (adults): 15 mg/l

METHOD: Photometric

SET-UP: once weekly

RESULTS READY: two days later



FREE TESTOSTERONE (S)

REQUIREMENT: 500 µl serum, FROZEN

REF. RANGE:

Male:

<10 years: 0,31-1,3 pg/ml

10-14 years: 0,82-15,4 pg/ml

15-19 years: 8,3-21,6 pg/ml

20-39 years: 7,0-22,7 pg/ml

40-60 years: 6,3-17,8 pg/ml

>60 years: 2,5-17,8 pg/ml

Female:

<10 years: <1,7 pg/ml

10-14 years: <2,3 pg/ml

15-19 years: <4,3 pg/ml

20-39 years: <3,4 pg/ml

40-60 years: <2,3 pg/ml

>60 years: <2,1 pg/ml

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: 3 days later

FRUCTOSE (SPERM)

5077

REQUIREMENT: 1 ml sperm, FROZEN

REF. RANGE: >2 g/L

METHOD: enzymatic UV-Test

SET-UP: once weekly

RESULTS READY: 6 days later

NOTE: Always send a separate sample for this test

GALACTOSE-1-PHOSPHATE

REQUIREMENT: 2 ml FROZEN haemolysate

Obtain 2 ml EDTA-blood, this should be washed immediately 3x with 10ml 0.9% saline. Then haemolyse 0.6 ml of packed red cells with 0.6 ml distilled water. Freeze haemolysate immediately

REF. RANGE: 7-22 mmol/L ery conc.

Galactosaemia patients under diet: 50-150 mmol/L ery conc.

METHOD: fluorimetric

SET-UP: once weekly

RESULTS READY: two days later

GAMMA INTERFERONE

19602

REQUIREMENT: 1ml serum FROZEN

Please note to always send a separate sample for this test

REF. RANGE: < 0.8 IU/mL

Reference ranges for children not available

METHOD: ELISA

SET-UP: Once weekly

RESULT READY: Two days later.

GASTRIN

13443

REQUIREMENT: 2 ml serum, fasting (at least 12hrs) sample. FROZEN

REF. RANGE:

Cord blood: 20-290 pg/mL



Up to 4 days: 20-183 pg/mL
Adults: <115 pg/mL (after 12-hr fasting)
METHOD: CLEIA
SET-UP: daily
RESULTS READY: same day

GENTAMYCIN

5127

REQUIREMENT: 1 ml serum, FROZEN

Draw peak sample 60 min. after IM injection; 30 min. after IV infusion. Draw trough sample immediately prior to next dose. Label tubes and state dose.

REF. RANGE:

Therapeutic range:

Max. 5.0 – 10 µg/mL

Min. 0.5 – 2 µg/mL

Toxic:

In relation to maximum therapeutic range: > 10 µg/mL

In relation to minimum therapeutic range: > 2 µg/mL

METHOD: FPIA

SET-UP: daily

RESULT READY: same day

GLUCAGON

8029

REQUIREMENT: 1ml FROZEN EDTA plasma

REF RANGE: 59-177 ng/L

METHOD: RIA

SET-UP: Tuesday

RESULTS READY: 9 days later

NOTE: Always send a separate sample for this test.

PLEASE NOTE: if result is >500pg/ml, repeat analysis will be performed in order to provide exact value.

In this case TAT will be total two to three weeks

GLUCOSE (CSF)

REQUIREMENT: 1 ml csf with 10 mg sodium fluoride - **FROZEN**

REF. RANGE: 40-80 mg/dL

SET-UP: daily

RESULTS READY: same day

GLUTATHION (TOTAL)

11072

REQUIREMENT: 2 ml EDTA blood, FROZEN

REF. RANGE:

Total: 194-384 mg/L

METHOD: HPLC

SET-UP: once weekly

RESULTS READY: next day

GLYCEROL FREE

REQUIREMENT: EDTA plasma **frozen**

REF. RANGE: 0,4 – 2,0 mg/dl

SET-UP: once every two weeks

RESULT READY: two days later

HAEMOGLOBIN-HAPTOGLOBIN COMPLEX/ iFOBT (HAEMOGLOBIN IMMUNOLOGICAL)



Bioscientia Test List Frozen Samples 2019

REQUIREMENT: 2 **FROZEN** faeces samples of approx. 1-2gr faeces each, taken from one specimen. Please obtain a stool sample void of any household cleaners/detergents as they can influence the analysis.

REF.-RANGE:

iFOBT (Haemoglobin immunological):

<2 µg/mg

Haemoglobin-haptoglobin complex:

<2 µg/mg

METHOD: ELISA

SET-UP: Tuesday, Thursday

RESULT READY: 4 days later

HCG/BETA HCG (CHORIONIC GONADOTROPHINS)

5725

REQUIREMENT: 2 ml **FROZEN** serum; please state week of pregnancy

REF. RANGE:

Male: <2 IU/L

Female: not pregnant: <10 IU/L

During pregnancy:

1. w.o.g.: <50 IU/L

1.-2. w.o.g.: <500 IU/L

2.-3. w.o.g.: 100-5000 IU/L

3.-4. w.o.g.: 500-10000 IU/L

4.-5. w.o.g.: 1000-50000 IU/L

5.-6. w.o.g.: 10000-100000 IU/L

6.-8. w.o.g.: 15000-200000 IU/L

2.-3. months: 10000-100000 IU/L

w.o.g. = week of gestation

Values between 2 - 10 IU/L: pregnancy cannot be ruled out; control suggested.

Values >10: pregnancy probable, if other reasons for an increased HCG have been excluded.

METHOD: CLIA

SET-UP: daily

RESULTS READY: same day

HCV RNA QUAL (LIVER TISSUE)

REQUIREMENT: 5 mg wet weight liver tissue; it is imperative that the sample be deep **frozen** immediately and kept frozen.

REF. RANGE: see report

METHOD: PCR

SET-UP: once weekly

RESULTS READY: two weeks later

HE4 – HUMAN EPIDIDIMIS PROTEIN 4

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE:

≤ 40 years <60.0 pmol/l

40 - 59 years <75.00 pmol/l

60 - 69 years <83.00 pmol/l

> 70 years <83.00 pmol/l

METHOD: ECLIA

SET-UP: once weekly

RESULT READ: two days later

HELICOBACTER ANTIGEN

REQUIREMENT: 10g faeces (stable at 2-8°C for 72hrs, otherwise **freeze**)

REF. RANGE: not detectable

METHOD: EIA
SET-UP: once weekly
RESULT READY: same day

HGH (HUMAN GROWTH HORMONE)

13907
REQUIREMENT: 1 ml FROZEN serum
REF. RANGE:
< 1 day: 3-33 ng/mL
1 day – 1 week: 3-17 ng/mL
1 week – 7 days: <8 ng/ml
7-11 years: <10 ng/mL
11-15 years: <9 ng/mL
15-19 years: <8 ng/mL
>19 years:
Female: <8ng/mL
Male: <3 ng/mL.
METHOD: CLIA
SET-UP: daily
RESULTS READY: same day

HISTAMINE (B)

8285
REQUIREMENT: 5 ml heparin blood FROZEN
REF. RANGE: 20–100 µg/L
METHOD: HPLC
SET-UP: once weekly
RESULTS READY: two days later

HISTAMINE (P)

15433
REQUIREMENT: 1 ml frozen Heparin plasma
REF. RANGE: <1 ng/mL
METHOD: HPLC
SET-UP: once weekly
RESULTS READY: two days later

HOLOTRANSCOBALAMINE (HoloTC)

15091
REQUIREMENT: 1 ml serum, FROZEN (light protected)
REF. RANGE: 35-120 pmol/L
In treating Vitamin B12 deficiency a serum holotranscobalamine level of >50 pmol/L should be aimed for.
METHOD: MEIA
SET-UP: twice weekly
RESULTS READY: same day
NOTE: In treating Vitamin B12 deficiency a serum holotranscobalamine level of > 50 pmol/l should be aimed for.

HOMA INDEX (INSULIN RESISTANCE) consisting of:

GLUCOSE

REQUIREMENT: **S-Monovette GlucoEXACT, Citrate Fluoride**
(special tubes available on request).
REF. RANGE: 74 - 106 mg/dL
SET-UP: daily
RESULTS READY: same day

INSULIN (S)



Bioscientia Test List Frozen Samples 2019

REQUIREMENT: 1 ml serum (fasting blood sample) FROZEN

REF. RANGE:

Age 2-12 years: < 10 mU/mL

Over 12-120 years: 2.6-25 mU/mL (after 12hrs fasting)

METHOD: ECLIA

SET-UP: daily

RESULTS READY: 4 days later

PLEASE NOTE: both samples needed, must be drawn on the same day

HOMOGENITISIC ACID

REQUIREMENT: 10 ml of a 24h urine. FROZEN, quote 24h volume

REF. RANGE: <0.1g/L

METHOD: HPLC

SET-UP: once weekly

RESULTS READY: two days later

HORMONE RECEPTORS (ESTROGEN & PROGESTERONE)

20805

REQUIREMENT: one paraffin block with tumor tissue

REF-RANGE: see report

SET-UP: once weekly

RESULTS READY: one week later

Alternative specimen (but not preferred): 1 g of tumor tissue (minimum: 500 mg) freeze specimen immediately after removal. **SEND FROZEN.**

REF. RANGE:

<10 fmol/mg (negative)

11-20 fmol/mg (borderline)

21-100 fmol/mg (positive)

>20 fmol/mg (high positive)

METHOD: RIA

SET-UP: once weekly

RESULTS READY: one week later

NOTE: Please quote relevant clinical data. This test is always performed with Estrogen receptors

HPL (HUMAN PLACENTAL LACTOGEN)

REQUIREMENT: 1 ml serum

Please quote week of gestation

REF. RANGE: see report

SET-UP: once weekly

RESULTS READY: two days later

HYPERCHROME ANEMIA/MEGALOBLASTIC ANEMIA/VITAMIN B12 SCREEN

Screen includes: CBC, Reticulocyte, Folic acid, active Vitamin B12 (Holotranscobalamin)

REQUIREMENT: 5ml EDTA blood, 2ml serum and 2ml serum **frozen**

REF. RANGE: see report

SET- UP: daily

RESULT READY: 2 days later

INHIBIN B

8278

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: age related, see report

METHOD: ELISA

SET-UP: Mondays & Thursdays



RESULT READY: 10 days later

INR (INTERNATIONAL NORMALISED RATIO)

180

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE: 2.0-3.5 ratios

SET-UP: daily

RESULTS READY: same day

INSULIN (AMNIOTIC FLUID)

REQUIREMENT: 1 ml amniotic fluid, FROZEN in a plastic tube

REF. RANGE: < 10 mcU/mL

METHOD: CLIA

SET-UP: daily

RESULTS READY: same day

INSULIN (S)

18732

REQUIREMENT: 1 ml serum (fasting blood sample) FROZEN

REF. RANGE:

Age 2-12 years: < 10 mU/mL

Over 12-120 years: 2.6-25 mU/mL (after 12hrs fasting)

METHOD: ECLIA

SET-UP: daily

RESULTS READY: same day

INTERLEUKIN I BETA

6957

REQUIREMENT: 2 ml serum, **FROZEN**

REF. RANGE: < 5 pg/mL

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: two days later

NOTE: Always send a separate sample for this test

INTERLEUKIN II

14850

REQUIREMENT: 2 ml serum, **FROZEN**

REF. RANGE: preliminary reference range: < 1.2 U/mL

SET-UP: once weekly

RESULTS READY: two days later

NOTE: Always send a separate sample for this test

INTERLEUKIN 2 RECEPTOR

13280

REQUIREMENT: 2 ml serum, **FROZEN**

REF. RANGE: 158-623 U/mL

METHOD: CLEIA

SET-UP: daily

RESULTS READY: same day

NOTE: Always send a separate sample for this test

INTERLEUKIN 2 RECEPTOR (CSF)

REQUIREMENT: 0,5 ml CSF, **FROZEN**

REF. RANGE: < 50 U/mL

METHOD: RIA

SET-UP: twice weekly

RESULTS READY: same day

NOTE: Always send a separate sample for this test

INTERLEUKIN 6

13184

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: < 7.0 pg/mL

METHOD: CLEIA

SET-UP: once weekly

RESULTS READY: two days later

NOTE: Always send a separate sample for this test

INTERLEUKIN 10

14745

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: < 8 pg/mL

METHOD: CBA

SET-UP: once weekly

RESULTS READY: two days later

NOTE: Always send a separate sample for this test

ISONIAZID/Acetyl-INH

REQUIREMENT: 2 ml serum **frozen**

REF. RANGE:

max.: 3,0-10 µg/mL

min.: 0.2-1.0 µg/mL

SET-UP: once weekly

RESULTS READY: two days later

ISOCYANATE (URINE)

(1.5 Diaminonaphthalin, 1.6 Hexamethylendiamin, cis-Isophorondiamin, 4.4 Diaminodiphenylmethan, 2.4 Toluylendiamin, 2.6 Toluylendiamin, trans-isophorondiamin)

REQUIREMENT: 10 ml morning or spot urine, **FROZEN**

REF. RANGE: see report

METHOD: GC-MS

SET-UP: once every two weeks

RESULTS READY: two days later

L-DOPA (S)

REQUIREMENT: 1 ml serum **FROZEN**

REF. RANGE: therapeutic range: 0.2 - 2.5 mg/l

METHOD: LC-MS

SET-UP: on request

RESULT READY: approx. 2 weeks

LACTATE (CSF)

6885

REQUIREMENT: 1 ml csf, **FROZEN**

REF. RANGE:

Newborn: 10-60 mg/dL

3-10 days old: 10-40 mg/dL

>10 days old: 10-25 mg/dL



Adults: 10-22 mg/dL
METHOD: enzymatic UV test
SET-UP: daily
RESULTS READY: same day

LACTATE (P)

8551
REQUIREMENT: 2 ml heparin plasma, FROZEN
REF. RANGE: 4.5-19.8 mg/dL
METHOD: enzymatic UV test
SET-UP: daily
RESULTS READY: same day

LACTOFERRIN (F)

REQUIREMENT: 5 gr. faeces **FROZEN**
REF. RANGE: > 6 month: < 7.2mcg/g faeces
SET-UP: once weekly
RESULT READY: 7 days later

LDL CHOLESTEROL (LOW DENSITY LIPOPROTEIN) (S)

REQUIREMENT: 1 ml serum
REF. RANGE:
Clinically insignificant: <150 mg/dL
Borderline: 150-190 mg/dL
Requiring treatment: >190 mg/dL

LEPTIN

14065
REQUIREMENT: 2 ml serum, FROZEN
REF. RANGE: age and gender related please see report
METHOD: RIA
SET-UP: Tuesdays, Thursdays
RESULTS READY: 10 days later

LIPIDS, TOTAL (F)

REQUIREMENT: 10g of a well mixed 24h faeces sample. Quote weight, freeze and send **FROZEN**
REF. RANGE: up to 2 weight %
METHOD: gravimetry
SET-UP: on request
RESULTS READY: 8 days later

LIVER DISEASE/HEPATIC SYNTHETIC DYSFUNCTION SCREEN

Screen includes: INR/Quick, Factor VII, Protein total, Albumin, Protein electrophoresis, Cholinesterase
REQUIREMENT: Serum **frozen** and citrate plasma **frozen**
REF. RANGE: see report
SET-UP: daily
RESULT READY: two days later

LSD (LYSERGIC ACID DIETHYLAMIDE) CONFIRMATION (LCMS-IT) (U)

REQUIREMENT: 1 ml urine FROZEN
REF. RANGE: see report
METHOD: LCMS-IT
SET-UP: once weekly
RESULT READY: 5 days later



LUPUS ANTICOAGULANTS / LUPUS INHIBITORS

5092

REQUIREMENT: 3 ml citrate plasma FROZEN (1 part 3.8% sodium citrate mixed
With 9 parts blood)

REF RANGE: not detectable

METHOD: turbidimetric

SET-UP: daily

RESULTS READY: same day

NOTE: Always send a separate sample for this test

LYSOZYME (CSF)

7771

REQUIREMENT: 2 ml csf, FROZEN

REF. RANGE: <1.0 mg/L

METHOD: nephelometry

SET-UP: once weekly

RESULTS READY: two days later

LYSOZYME (FAECES)

6569

REQUIREMENT: 5 g faeces, FROZEN

REF. RANGE: <10 µg/g feces

Borderline: <15 µg/g feces

METHOD: turbidimetric

SET-UP: once weekly

RESULTS READY: two days later

LYSOZYME (S)

7770

REQUIREMENT: 2 ml serum, FROZEN

REF. RANGE: <13 mg/L

METHOD: nephelometry

SET-UP: once weekly

RESULTS READY: two days later

LYSOZYME (U)

7769

REQUIREMENT: 2 ml urine, FROZEN

REF. RANGE: <1.5 mg/L

METHOD: nephelometry

SET-UP: once weekly

RESULTS READY: two days later

M2-PK (TUMOR MARKER)

5531

REQUIREMENT: 1 ml EDTA plasma FROZEN

REF. RANGE: <15 U/mL

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: two days later

NOTE: False increased values caused by haemolysis. Separate plasma from cells within 4h.

M2-PK (TUMOR MARKER)

REQUIREMENT: approx. 5 gr. faeces, **FROZEN**

REF. RANGE: < 4 U/mL

METHOD: ELISA

SET-UP: Tuesday and Thursday
RESULTS READY: two days later

MACRO CREATININE KINASE TYPES 1 & 2

REQUIREMENT: 1 ml serum, FROZEN
REF. RANGE: see report
SET-UP: once weekly
RESULTS READY: two days later

MALONDIALDEHYDE

8865
REQUIREMENT: 2 ml heparin plasma, FROZEN
REF. RANGE: 1.2-2.8 µmol/L
METHOD: HPLC
SET-UP: once weekly
RESULTS READY: two days later

MEBENDAZOL

6343
REQUIREMENT: 2 ml serum, FROZEN
REF. RANGE:
Therapeutic range: 10-100 µg/L
Toxic: >600 µg/L
METHOD: HPLC
SET-UP: once weekly
RESULTS READY: two days later

MELATONIN

13157
REQUIREMENT: 1 ml serum, FROZEN
REF. RANGE:
Day values: < 20 pg/mL
Night values: > 30 pg/mL
METHOD: RIA
SET-UP: once weekly
RESULTS READY: two days later

METADRENALIN & NORMETADRENALIN SEE METANEPHRINE & NORMETHANEPHRINE

METANEPHRINE & NORMETANEPHRINE

24931
REQUIREMENT: 2 ml EDTA Plasma, FROZEN
The blood should be taken with the patient sitting in an upright position after having rested for 10 minutes.
The blood should be centrifuged and the plasma frozen immediately following sampling and then transported frozen.
MAO Inhibitors, alpha-metyldopa, Tricyclic antidepressants, Calcium antagonists, ACE Inhibitors, Bromocriptine, Chlorpromazine should be stopped at least one week before taking the blood sample.
Antidepressants (except Lithium) should be stopped at least 3 weeks before.
Avoid stress and the intake of Amphetamines, nicotine, caffeine, alcohol, Aspirin, Quinidine, Tetracycline, Theophyllin, Erythromycin, medicine withdrawal (Ethanol, Clonidine), Vasodilator therapy (e.g. Phenoxybenzamine), nose drops, bronchodilators, appetite depressants, cough syrup.
REF. RANGE:
Metanephrine, free: < 90 ng/L
Normetanephrine, free: < 129 ng/L
METHOD: LC-MS/MS

SET-UP: on Tuesdays and Thursdays

RESULTS READY: 6 days later

NOTE: These tests are always performed together.

MUSCLE BIOPSY

8748

REQUIREMENT: 2 biopsies

spec.1 (unstretched): unfixed tissue section (bean size). Freeze and send **FROZEN**.

In an effort to guarantee the best possible diagnostic evaluation of all incoming muscle biopsies I will present here the protocol on how the muscle tissue should be snap- frozen:

Freezing procedure:

- (1) Material needed:
- Small metal container/ beacon that can be immersed into liquid nitrogen
 - 2- Methylbutan by ROTH (as an example) Art.#: 3927.1
 - Small polystyrene - container that can be filled with liquid nitrogen, into which the container with 2- Methylbutan can be immersed.
- (2a) ideal procedure:
- Muscle tissue must not be wet! - if need be, wait until the surface of the muscle tissue is almost dry
 - Muscle tissue is dissected into at least two fragments, one for cross- section and one for longitudinal sections of the muscle.
 - These fragments are mounted on separate small round cork- plates and if needed fixed with a little amount of tissue- TEK (do not immerge the whole muscle into on their basis tissue- TEK)
 - Container /beacon with 2- methylbutan is immersed into liquid nitrogen until one can see small white cristals forming at the wall of the container/ beacon - these cristals indicate that the methylbutan has the right temperature for freezing
 - Now, the cork plates with mounted tissue are submerged into the methylbutan for 30 sec - 1 min
 - Cork- plates with tissue can be wrapped into pre- cooled aluminium foil transferred into pre- cooled small plastic containers and then sent out on dry ice.
- spec. 2 (stretched): send in 2.5% buffered glutaraldehyde. Do not freeze. Avoid contact with FROZEN sample spec.1.

REF. RANGE: see report

SET-UP: once weekly

RESULTS READY: four-five weeks later

NOTE: Always write date of birth on the request form and attach all clinical data available.

This is vital for the Pathologist to assist with this diagnosis.

MYOGLOBIN, QUANTITATIVE (U)

5483

REQUIREMENT: 10 ml urine, **FROZEN**

REF. RANGE: < 20 ng/mL

METHOD: nephelometer

SET-UP: Tuesdays, Fridays

RESULTS READY: same day

NGAL (Neutrophile Gelatinase Associated Lipocaline)

Compared to creatinine NGAL in urine is a good indicator of acute Kidney damage (NGAL approx. 2 hours, creatinine approx. 24-48 hours).

REQUIREMENT: 5ml urine **frozen**

Ref. Range: > 85 mcg/g

Sensitivity approx. 93%, specificity approx. 98% (cut-off 85 mcg/g crea)

Sensitivity approx. 90%, specificity approx. 99.5% (cut-off 130 mcg/g crea)

METHOD: CMIA

SET-UP: once weekly

Result Ready: next day

NERVE BIOPSY

18749

REQUIREMENT: 2 biopsies

spec.1 (unstretched): unfixed tissue section (bean size). Freeze and send **FROZEN**.

spec. 2 (stretched): send in 2.5% buffered glutaraldehyde. Do not freeze. Avoid contact with FROZEN sample spec.1.

REF. RANGE: see report

SET-UP: once weekly

RESULTS READY: four-five weeks later

NMP22 (NUCLEAR MATRIX PROTEIN 22)

13914

REQUIREMENT: Request special tubes. 10 ml urine please fill tube to fill line. Obtain urine between 0.00h and 12.00h. SEND **FROZEN**

REF. RANGE: <10 U/mL - Acute or chronic urinary tract infections, calculosis, permanent catheter, cystoscopy, neo-bladder and ileum-conduit can cause increased NMP22 values

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: two days later

NT-pro BNP

15672

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: see report

(always quote d.o.b. or age)

METHOD: ECLIA

SET-UP: daily

RESULTS READY: same day

OLIGOSACCHARIDES

8267

REQUIREMENT: 10 ml urine, **FROZEN**. Quote date of birth

REF. RANGE: see report for interpretation

METHOD: HPLC

RESULTS READY: 4 to 6 weeks

OPIATES CONFIRMATION (GC-MS) (S)

Includes: Codeine, Morphine, Monoacetyl-Morphine, Dihydrocodeine, Hydromorphon, Oxymorphon, Acetylcodein, Hydrocodon, Oxycodon

REQUIREMENT: 2 ml serum **FROZEN**

REF. RANGE: see report

METHOD: LC-MS/MS

SET-UP: once weekly

RESULTS READY: two days later

ORGANIC ACIDS SCREEN

REQUIREMENT: minimum 10 ml spot urine **FROZEN** - Do not use boric acid as additive.

REF. RANGE: see report

METHOD: GC-MS

SET-UP: on request

RESULTS READY: 7 days later

NOTE: Please quote all relevant clinical data including patient age, sex and whether on medication

OSMOLALITY (S)

5493



REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: 280-320 mOsmol/kg

METHOD: cryoscopy

SET-UP: Tuesdays, Thursdays

RESULTS READY: same day

OSMOLALITY (U)

5070

REQUIREMENT: 5 ml urine, **FROZEN**

REF. RANGE: 50-1200 mOsmol/kg

METHOD: cryoscopy

SET-UP: Tuesdays, Thursdays

RESULTS READY: same day

OSTASE (BONE SPECIFIC ALKALINE PHOSPHATASE)

22715

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE:

Adults:

Females:

Pre-menopausal: 2.9-14.5 µg/L

Post-menopausal: 3.8-22.6 µg/L

Male: 3.7-20.9 µg/L

Children:

Females:

<3 yrs 42 – 107 µg/l

3 – 5 yrs 30 – 109 µg/l

5 – 7 yrs 22 – 115 µg/l

7 – 9 yrs 37 – 148 µg/l

9 – 11 yrs 42 – 108 µg/l

11 – 13 yrs 39 – 111 µg/l

13 – 15 yrs 13.7 – 110 µg/l

15 – 17 yrs 10.2 – 73 µg/l

17 – 19 yrs 5.9 – 20 µg/l

19 – 120 yrs 5.5 – 25 µg/l

Male:

<3 yrs 43 – 105 µg/l

3 – 5 yrs 30 – 85 µg/l

5 – 7 yrs 49 – 109 µg/l

7 – 9 yrs 53 – 123 µg/l

9 – 11 yrs 52 – 105 µg/l

11 – 13 yrs 56 – 152 µg/l

13 – 15 yrs 15,5 – 134 µg/l

15 – 17 yrs 16,6 – 123 µg/l

17 – 19 yrs 11 – 78 µg/l

19 – 120 yrs 5.5 – 25 µg/l

METHOD: CLIA

SET-UP: Mondays, Thursdays

RESULTS READY: same day

OSTEOCALCIN

11765

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE:

Female:

Pre menopausal (>20years): 11-43 µg/L

Post menopausal: 15-46 µg/L

Male:

<30 years: 24 -70 µg/L

30-50 years: 14-42 µg/L

>50 years: 14-46 µg/L

METHOD: CLEIA

SET-UP: daily

RESULTS READY: same day

OSTEOPOROSIS PROFILE FEMALE

PROFILE INCLUDES THE ANALYSIS OF:

CRP, Calcium, AP, GGT, BSG, Parathormone, 25-OH-Vitamin D, Cystatin-C, Phosphate

Protein-Electrophoresis, TSH, Calcium, β-Crosslaps, GPT, GOT, RBC, Ostase

REQUIREMENT: **2 ml serum frozen**, plus 2ml serum plus 5ml EDTA blood plus 10ml of 24 hour urine collection

REF. RANGE: see report

METHOD: see singularly tests

SET-UP: daily

RESULT READY: three days later

OSTEOPOROSIS PROFILE MALE

PROFILE INCLUDES THE ANALYSIS OF:

CRP, Calcium, AP, GGT, BSG, Parathormone, 25-OH-Vitamin D, Cystatin C, Phosphate

Protein electrophoresis, TSH, Calcium, β-Crosslaps, GPT, GOT, RBC, Ostase, Testosterone

REQUIREMENT: **2 ml serum frozen**, plus 2ml serum plus 5ml EDTA blood plus 10ml of 24 hour urine collection

REF. RANGE: see report

METHOD: see singularly tests

SET-UP: daily

RESULT READY: three days later

PANCREATIC ELASTASE (SERUM)

REQUIREMENT: 1 ml serum **FROZEN**

REF. RANGE: < 3.5 ng/ml

METHOD: EIA

SET-UP: once weekly

RESULTS READY: same day

PANCREATIC POLYPEPTIDE

8946

REQUIREMENT: 2 ml EDTA plasma, **FROZEN**

REF. RANGE: < 100 pmol/L

METHOD: RIA

SET-UP: once weekly

RESULTS READY: one week later

Note: Always send a separate sample for this test

PHOSPHO TAU

12292

REQUIREMENT: 1 ml csf **frozen**

REF. RANGE: < 61 pg/mL

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: two days later

PIPECOLIC ACID SCREEN

INCLUDES: aminoadipic semialdehyd, piperidine-6-carboxylic acid, sum AASA + P6C

REQUIREMENT: urine **FROZEN**

REF. RANGE: see report

METHOD: GC-MS

SET-UP: once weekly

RESULT READY: next day

PLASMINOGEN

8853

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

REF. RANGE FO BOTH: 75-150%

METHOD: chromogenic test

SET-UP: once weekly

RESULTS READY: same day

NOTE: Always send a separate sample for this test

NOTE: For children this test is reported age-related. Please quote d.o.b.

PLASMINOGEN ACTIVATOR INHIBITOR-1 (PAI-1)

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

To avoid clotting please mix test tube carefully several times directly after collection of blood.

Centrifugation process should be started after about 60 minutes. Please centrifuge sample at least for 15 minutes (1500 x g). Plasma / supernatant should be transferred by pipette to a collection tube without any buffer or other substances. Please label as citrated plasma. Freeze and send frozen.

REF. RANGE: <7.0 U/ml

METHOD: EIA

SET-UP: on request

RESULTS READY: two weeks later

NOTE: Always send a separate sample for this test

PLATELET ABS BOUND & FREE

(bound: GP IIb/IIIa-abs, GP IV, GP Ib/IX-abs, GP Ia/IIa abs

free: HLA Class I-IgG abs. EIA (S), GP IIb/IIIa-abs, GP Ib/IX abs, GP Ia/IIa abs)

REQUIREMENT: 30 ml EDTA blood (20 ml minimum) and 4 ml **FROZEN** serum

REF. RANGE: see special report

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: one week later

POLIO VIRUS 1, 2 AND 3 ABS

5989

REQUIREMENT: 2 ml serum

REF. RANGE FOR ALL: Immunity: 1:8 titer

METHOD: neuralization test

SET-UP: weekly

RESULTS READY: one week later

NOTE: Best results are obtained by submitting acute and convalescent samples together (label specimens accordingly). **Freeze** acute sample until convalescent sample is drawn.

POTASSIUM CHANNEL ABS

7037

(SHAKER TYPE Kv1.6, Kv 1.1 & Kv 1.2)

REQUIREMENT: 1 ml serum, **FROZEN**



REF. RANGE FOR EACH SUBTYPE:

<10 abs - ratio: negative

10-15 abs - ratio: borderline

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: two days later

POTASSIUM CHANNEL ABS (CSF)

REQUIREMENT: 1ml **frozen** CSF (minimum amount 500µl)

REF. RANGE: see report

SET-UP: once weekly

RESULTS READY: two days later

PREECLAMPSIA (sFlt-1/PLGF)

REQUIREMENT: 1ml serum please send cool or **frozen**

REF. Range: see report

SET-UP: twice weekly

RESULT READY: same day

NOTE: Please do not draw serum before the 20+0 week of gestation

PROCOLLAGEN TYPE I N-TERMINAL PEPTIDE

REQUIREMENT: 1 ml Serum **FROZEN**

REF. RANGE: see report

METHOD: ECLIA

SET-UP: once weekly

RESULT READY: 10 days later

PRO-GASTRIN- RELASING-PEPTIDE

REQUIREMENT: 1 ml EDTA Plasma **FROZEN**

REF. RANGE: <38 pg/mL

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: two days later

PROINSULIN INTACT

13376

REQUIREMENT: 1 ml serum **FROZEN**

REF. RANGE: < 11 pmol/L after 12hr fasting

METHOD: ELISA

SET-UP: Mondays, Thursdays

RESULTS READY: same day

PROINSULIN INTACT

REQUIREMENT: 1 ml EDTA Plasma **FROZEN**

Please note: it is imperative to centrifuge immediately. Refill plasma into a sterile tube , freeze

REF. RANGE: < see report

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: one week later

PROCALCITONIN (PCT)

5584

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE: <0.1 ng/mL

METHOD: Immunoassay with TRACE

SET-UP: daily

RESULTS READY: same day

PROCOLLAGEN III PEPTIDE (P-III-P)

REQUIREMENT: 2 ml serum, **FROZEN**

REF. RANGE:

up to 10 years: 0.3-6.1 U/mL

10-15 years: 0.6-1.7 U/mL

15-20 years: 0.4-1.8 U/mL

>20 years: 0.3-0.8 U/mL

METHOD: RIA

SET-UP: Wednesday

RESULTS READY: same day

PROFILE SERVICE

The following profiles have been made up from groups of tests most commonly requested. Only the tests listed in the profile will be performed for the profile price. Any additional tests will be charged according to the price list.

PROFILE 1 INFERTILITY (FEMALE)

7131

REQUIREMENT: 2 ml serum + 2 ml FROZEN serum

TESTS:

FSH

LH

Prolactin

Oestradiol

Progesterone

PROFILE 2 INFERTILITY (MALE)

7132

REQUIREMENT: 2 ml serum + 2 ml FROZEN serum

TESTS:

FSH

LH

Prolactin

Testosterone

Oestradiol

PROFILE 3 AMENORRHOEA (OVARIAN INSUFFICIENCY) PRIMARY

7133

REQUIREMENT: 2 ml serum + 1ml FROZEN serum

TESTS:

FSH

LH

Oestradiol

Prolactin

PROFILE 4 AMENORRHOEA (OVARIAN INSUFFICIENCY) SECONDARY

7134

REQUIREMENT: 2 ml serum + 1ml FROZEN serum



TESTS:

Testosterone
Free T3
Free T4
TSH Basal

PROFILE 5 HIRSUTISM

7135

REQUIREMENT: 2 ml serum + 2 ml FROZEN serum

TESTS:

FSH
LH
Testosterone
DHEA-s
17-OH Progesterone

PROFILE 7 PITUITARY INSUFFICIENCY (MALE)

7137

REQUIREMENT:

3 ml serum: 1st sample + 1ml FROZEN serum + 1 ml EDTA plasma frozen

1 ml serum: 2nd sample

TESTS:

FSH
IGF-1
LH
TSH Basal
ACTH
Testosterone
2 x Cortisol (Synacthen-Test)
1st time.....
2nd time.....

PROFILE 8 PITUITARY INSUFFICIENCY (FEMALE)

7138

REQUIREMENT:

3 ml serum: 1st sample + 1ml FROZEN serum + 1 ml EDTA plasma frozen

1 ml serum: 2nd sample

TESTS:

FSH
IGF-1
LH
TSH Basal
ACTH
Oestradiol
2 x Cortisol (Synacthen):
1st time.....
2nd time.....

PROFILE 9 ADRENAL GENITAL SYNDROME

7183

REQUIREMENT: 4 ml serum, FROZEN

TESTS:

17-OH Progesterone
DHEA-S
Aldosterone
11-desoxycortisol



PROGESTERONE

18830

REQUIREMENT: 1 ml serum, FROZEN please state week of pregnancy-important

REF. RANGE: See Report

These results are age and gender related

Note: it is imperative to always quote the d.o.b. and gender of the patient

METHOD: ECLIA

SET-UP: daily

RESULTS READY: same day

PROPYLVALERIC ACID SEE VALPROIC ACID

PROSTATIC SPECIFIC ANTIGEN (PSA) STRUCTURE

20759

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE:

Total PSA:

<4.0 ng/mL (for 99% of healthy men)

Free PSA -

PSA RATIO:

Ratio <0.15 higher probability of prostate cancer

Ratio >0.25 higher probability of benign prostate hyperplasia

Ratio 0.15-0.25 control analysis suggested

METHOD: CLIA

SET-UP: daily

RESULTS READY: same day

NOTE: If the total PSA result is borderline (3-10 ng/mL), Free PSA is automatically performed and charged for.

This test is offered as a structure.

PROTEIN ELECTROPHORESIS (U) SEE PROTEINURIA STRUCTURE

PROTEIN C (ACTIVITY)

5134

REQUIREMENT: 1 ml citrate plasma FROZEN

REF. RANGE FOR ADULTS: >70%

METHOD: chromogenic assay

SET-UP: daily

RESULTS READY: same day

NOTE: Always send separate samples for this test.

NOTE: For children this test is reported age-related. Please quote d.o.b.

PROTEIN C (GLOBAL) see PROTEIN C AND S SCREENING

PROTEIN C AND S SCREENING

Test performed: Protein C activity, APC Resistance, Protein S Antigen free

PROTEIN S ACTIVITY, SEE PROTEIN S ANTIGEN FREE

REQUIREMENT: 2ml citrate plasma Frozen

REF. RANGE: see report

SET-UP: twice weekly

RESULT READY: same day

PROTEIN S ANTIGEN FREE

REQUIREMENT: 1 ml citrateplasma, FROZEN

REF. RANGE:

FEMALE: 60 – 114%

MALE: 68 – 139%



METHOD: Turbidimetry
SET-UP: daily
RESULT READY: next day

PROTEIN S-100 (CSF, S)

14749 (S) 14750(CSF)
REQUIREMENT: 1 ml csf or 1 ml serum, FROZEN
REF. RANGE:
CSF:
Female: < 2.5 µg/L
Male: < 3.3 µg/L
Serum: < 0.11 µg/L
METHOD: ECLIA
SET-UP: once weekly
RESULTS READY: two days later
NOTE: Always send a separate sample for this test

PROTEIN Z (CP)

REQUIREMENT: 1 ml citrate plasma, **FROZEN**
METHOD: ELISA
REF. RANGE: 1000-4000 µg/l
SET-UP: once weekly
RESULTS READY: 8 days later
NOTE: Always send a separate sample for this test

PROTHROMBIN FRAGMENTS 1+2

13107
REQUIREMENT: 1 ml citrate plasma, FROZEN
REF. RANGE: 69-229 pmol/L
METHOD: ELISA
SET-UP: once weekly
READY: approx. 2 weeks later
NOTE: Always send a separate sample for this test

PROTHROMBIN TIME (QUICK TEST)

180
REQUIREMENT: 3 ml citrate plasma, FROZEN
REF. RANGE:
Quick: result reported as a percentage
INR: 2.0-3.5
SET-UP: daily
RESULTS READY: same day
NOTE: Always send a separate sample for this test

PROTOPORPHYRIN SEE PORPHYRINS, TOTAL (FAECES)

PSEUDOMONAS AERUGINOSA IgG ABS STRUCTURE

TEST INCLUDES: Alkaline Protease IgG abs, Elastase IgG abs, Exotoxin IgG abs
REQUIREMENT: 3ml serum **FROZEN**
REF. RANGE: see report
METHOD: EIA
SET-UP: once weekly
RESULT READY: two days later

PTH INTACT

18682
REQUIREMENT: 2 ml EDTA plasma, FROZEN



REF. RANGE: 15-65 pg/mL

METHOD: ECLIA

SET-UP: daily

RESULTS READY: same day

PTH RELATED PROTEIN

13614

REQUIREMENT: 2 ml EDTA plasma, FROZEN

REF. RANGE: < 1.3 pmol/L

METHOD: IRMA

SET-UP: once weekly

RESULTS READY: two days later

NOTE: Always send a separate sample for this test

PTT SEE aPTT

PURINES/PYRIMIDINES

REQUIREMENT: 10 ml of spot urine or 10 ml of a 24hr urine (please quote volume). **FROZEN**

REF. RANGE: see report

METHOD: HPLC

SET-UP: on request

RESULTS READY: 14 days later

PURKINJECCELL-ANTIGEN 2 SEE PCA2-ABS

PYRUVATE (CSF)

5997

REQUIREMENT: 2 ml csf, FROZEN

REF. RANGE: < 80 mcmol/L

METHOD: enzymatic photometry

SET-UP: once weekly

RESULTS READY: two days later

QUINIDINE

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE:

Therapeutic range: 2.0 - 6.0 µg/mL

Toxic: >10 µg/mL

SET-UP: once weekly

RESULTS READY: two days later

RENAL INSUFFICIENCY (CHRONIC) SCREEN

SCREEN INCLUDES: Cystatin C, HbA1c, Urea, Potassium, Sodium, Protein total, RBC, Erythropoietin, Thromboplastine time (Quick), PTH, Phosphate, Calcium, Vitamin D 25, Proteinuria, Urine status

REQUIREMENT: 3ml EDTA blood, 5ml serum, 10ml urine, **EDTA plasma frozen**

REF.-Range: see report

SET-UP: daily

RESULT ready: approx. 3 to 5 days

RENIN

24071

REQUIREMENT: 1 ml EDTA plasma, draw and centrifuge cool, freeze immediately, transport **FROZEN**. The patient should be fasting and the specimen should be drawn in the morning between 7.00 a.m. and 10.00 a.m.

REF.RANGE:

Adults >17 yrs. 2,6 – 28ng/l

1.7-24 ng/l (0.04 – 0.57 pmol/l) (after 30 min recumbent)



Bioscientia Test List Frozen Samples 2019

2.6-28 ng/l (0.06 – 0.66 pmol/l) (after 30 min in upright position)

Children and adolescents:

< 6 yrs: 6.3 – 149 ng/l

7 – 12yrs: 5.5 – 110 ng/l

13 – 17yrs: 3.3 – 61 ng/l

METHOD: CLIA

SET-UP: daily

RESULTS READY: same day

REPTILASE TIME

6575

REQUIREMENT: 2 ml Citrat plasma, FROZEN

REF. RANGE: 16-22 sec

METHOD: clotting test

SET-UP: once weekly

RESULTS READY: two days later

RETIGABIN

REQUIREMENT: 1 ml EDTA plasma **FROZEN** (protect for light)

REF. RANGE: see report

METHOD: LC-MS/MS

SET-UP: Monday, Wednesday, Friday

RESULT READY: next day

Reverse T3 (serum)

Requirement: 1 ml serum, **FROZEN**

Method: ELISA

Set-up: 1x/week

Result ready: 7 days later

RHEUMATOID ARTHRITIS SCREEN

SCREEN INCLUDES: CCP abs, CRP, RF, ANA reflex test, uric acid, Protein electrophoresis, RBC, C3/C4 complement, CIC

REQUIREMENT: 3ml serum, 2ml serum **frozen**, EDTA blood

REF.-RANGE: see report

SET-UP: daily

RESULT READY: approx..3 to 5 days

RIFAMPICIN

REQUIREMENT: 2 ml serum **frozen** or csf

REF. RANGE:

trough values: 0.1 - 1.0 mg/l

peak values: 4.0 - 10.0 mg/l

toxic: > 10.0 mg/l

METHOD: LC-MS

SET-UP: 3x/week

RESULTS READY: 6 days later

RITALIN (RITALINIC ACID & METHYLPHENIDATE)

5495

REQUIREMENT: 2 ml serum, FROZEN

REF. RANGE: see report

NOTE: Ritalinic acid is an inactive metabolite of methylphenidate. A positive result is indicative of drug intake, but does not indicate the quantitative methylphenidate level.

METHOD: LC-MS

SET-UP: once weekly



RESULTS READY: two days later

NOTE: These tests are always performed together

RIVAROXABAN

REQUIREMENT: citrate plasma **frozen**

PLEASE NOTE:

Draw blood into the citrate tube exactly up to the marking and carefully swirl a few times to avoid clotting.

After 30 minutes centrifuge for a minimum of 15 minutes by 1500 rotation.

Carefully take the plasma with a pipette and place it into a sterile tube.

Label tube as citrate plasma

Freeze and send frozen

REF. RANGE: see report

METHOD: LC-MS/MS

SET-UP: once weekly

RESULT READY: one week later

SCC (SQUAMOUS CELL CARCINOMA)

12211

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE: < 1.5 ng/mL

METHOD: CLIA

SET-UP: daily

RESULTS READY: same day

SDMA (Symetric Dimethylarginine)

13975

REQUIREMENT: 2 ml serum, FROZEN

REF. RANGE: 80-140 µg/L

METHOD: LC-MS

SET-UP: once weekly

RESULTS READY: two days later

SEROTONIN (B)

5031

REQUIREMENT: 2 ml EDTA blood, FROZEN

REF. RANGE: 150.5-185.9 µg/L

METHOD: HPLC

SET-UP: twice weekly

RESULTS READY: next day

SEROTONIN (U)

13776

REQUIREMENT: 10 ml from a 24h urine. FROZEN

Collect in 5-10 ml 6M hydrochloric acid, mix well and send in 10 frozen.

REF. RANGE: < 200 µg/24h

METHOD: HPLC

SET-UP: Wednesdays

RESULTS READY: 7 days later

SIALIC ACID

8330

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE: 0-2mmol/L

METHOD: HPLC

SET-UP: once weekly

RESULTS READY: two days later

TAU PROTEIN

8137

REQUIREMENT: 1 ml csf (protect from light) **frozen**

REF. RANGE: < 445 pg/mL

Tau protein is a neurofibrile marker. Increased values are found in cases of Alzheimer dementia, very high values in Creutzfeld-Jacob disease (CJD and nvCJD). Increased values are possible in other forms of dementia s.a. vascular dementia, AIDS dementia complexes, normotonic hydrocephalus, frontal lobe dementia or Lewy bodies dementia. Combined interpretation of Tau-protein and beta Amyloid: Cut off values for the differential diagnosis of CNS diseases: Healthy control persons vs Alzheimer dementia: Tau protein 252 pg/mL (specificity 70%) beta Amyloid: 643 pg/mL (specificity 81%)

Neurological diseases vs Alzheimer dementia: Tau protein 293 pg/mL (specificity 89%) beta Amyloid 551 pg/mL (specificity 63%) Non Alzheimer dementia vs Alzheimer dementia: Tau protein 239 pg/mL (specificity 57%) beta Amyloid: 556 pg/mL (specificity 59%) (according to Hulstaert et al., Neurology 1999;52:1555-1561).

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: one week later

TESTOSTERONE (S) (total)

18831

REQUIREMENT: 1 ml serum, **FROZEN** state date of birth, sex and clinical details

REF. RANGE: see report

SET-UP: daily

RESULTS READY: same day

THROMBIN-ANTITHROMBIN COMPLEX (TAT)

5876

REQUIREMENT: 1 ml citrate plasma, **FROZEN**

REF. RANGE: < 2.0 µg/L

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: two days later

THROMBIN TIME (TT)

188

REQUIREMENT: 3 ml citrate plasma, **FROZEN**

REF. RANGE: 16-20 sec.

SET-UP: daily

RESULTS READY: same day

THROMBOPHILIA ANTIBODIES SCREEN (Phospholipid abs)

REQUIREMENT: two tubes citrate plasma **frozen**, 2ml serum

REF. RANGE: see report

Screening includes:

Lupus anticoagulation/inhibitor, Cardiolipin abs, Beta -2- Glycoprotein- 1- abs (IgG/IgM)

SET-UP: once weekly

RESULT READY: next day

THROMBOPHILIA SCREEN

24945

REQUIREMENT: two tubes citrate plasma **frozen**, 2ml serum, EDTA blood

REF. RANGE: see report

Screening includes:

APC resistance, Protein C activity, Protein S activity, Factor VIII, AT III, Lupus anticoagulation,

Cardiolipin abs IgG/IgM, Beta 2 Glycoprotein abs IgG and IgM, Factor II Gene Mutation

SET-UP: daily except Fridays

RESULT READY: 3 – 5 days

PLEASE NOTE: please do not send before our weekend.

THYROID STIMULATING IMMUNOGLOBULIN (TSI)

Requirement: 3 ml serum **frozen**

Set-up: once weekly

Result ready: 10 days later

NOTE: Please send a separate sample for this test.

TISSUE PLASMINOGEN ACTIVATOR (t-PA)

5462

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE: <2 - 8 ng/mL

t-PA is the most important physiological plasminogen activator. Decreased values found in coronary diseases, apoplexy, diabetes, arterial and venous thromboembolies. In most cases increased PAI-1 values are noticed at the same time.

Increased values of t-PA are noticed under stress, liver failure, tumors, etc.

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: 4-6 weeks

TOTAL ANTIOXIDATIVE CAPACITY

5583

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE: 1.30 - 1.77 mmol/L

METHOD: photometric

SET-UP: once weekly

RESULTS READY: two days later

TOTAL COMPLEMENT (CH50)

REQUIREMENT: 2 ml serum, **FROZEN**

REF. RANGE: > 31,6 – 57,6 U/mL

METHOD: photometric

SET-UP: Thursday

RESULTS READY: 4 days later

NOTE: Always send a separate sample for this test

TPA (TISSUE POLYPEPTIDE ANTIGEN)

5462

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE: < 75 U/L

Borderline: up to 95 U/L

METHOD: LIAISON TPA

SET-UP: daily

RESULTS READY: same day

TPS (TISSUE POLYPEPTIDE SPECIFIC AG)

5467

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE: < 80 U/L

METHOD: IRMA

SET-UP: daily

RESULTS READY: same day



TR IgA, IgG, IgM ABS QUAL.

14585

REQUIREMENT: 1 ml serum, FROZEN

REF. RANGE: not detectable – titer <1:50

METHOD: IF

SET-UP: once weekly

RESULTS READY: two days later same day

NOTE: If TR is positive the qualitative charge is cancelled and TR quant. is automatically

Transcortin

REQUIREMENT: 1 ml serum FROZEN

REF. RANGE:

FEMALE: 40 – 154 µg/ml

MALE: 22 – 55 µg/ml

METHOD: RIA

SET-UP: once weekly

RESULT READY: 7 days

TRAP 5b (TARTRATE RESISTENT ACID PHOSPHATASE 5b)

8274

REQUIREMENT: 1 ml serum, freeze immediately SEND FROZEN.

REF. RANGE:

Female: 1.4-4.2 U/L

Male: 1.5-4.7 U/L

METHOD: ELISA

SET-UP: once weekly

RESULTS READY: two days later

TROPONIN T (HIGH SENSITIVE)

REQUIREMENT: 1 ml **FROZEN** serum

REF. RANGE:

Up to 7 days: < 0,37 ng/mL

8 – 30 days: < 0,22 ng/mL

31 – 120 days: < 0,12 ng/mL

121 days – 1 year: < 0,05 ng/mL

> 1 year: up to 0,014 ng/mL

Kindly refer to your report of the interpretation of the result

METHOD: ECLIA

SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday

RESULT READY: next day

TRYPSIN (S)

REQUIREMENT: 1 ml serum, **FROZEN**

REF. RANGE: 160 - 600 ng/mL

METHOD: RIA

SET-UP: 2x/weekly

RESULTS READY: 8 days later

TUMOR NECROSIS FACTOR ALPHA (TNF ALPHA)

REQUIREMENT: 2 ml serum, FROZEN

REF. RANGE: < 8,1 pg/mL

METHOD: CLIA

SET-UP: once weekly

RESULTS READY: 5 days later

NOTE: Always send a separate sample for this test.

VALPROIC ACID (PROPYLVALERIC ACID)

17481

REQUIREMENT: 1 ml serum FROZEN

REF. RANGE: 50-100 µg/mL

METHOD: CLIA

SET-UP: daily

RESULTS READY: same day

VERY LONG CHAIN FATTY ACIDS (VLCFA)

REQUIREMENT: 1.5 – 2 ml serum **FROZEN**

REF. RANGE:

Fatty acid C22:

26.5-110.0 µmol/L

Fatty acid C24:

24.9-90.0 µmol/L

Fatty acid C26:

0.2-1.6 µmol/L

C24/C22 ratio:

<0.95 ratio

C26/C22 ratio:

<0.02 ratio

Phytanic acid:

0-10 µmol/L

Pristanic acid:

0-3 µmol/L

Interpretation: see report

METHOD: GC-MS

SET-UP: once weekly

RESULTS READY: one–two weeks later

NOTE: If possible sample should be collected before breakfast after an overnight fast. The person taking the blood and patient should not use hand cream of any sort. Quote patient's race, sex and age and whether samples are from relatives of patients with adrenoleukodystrophy/adrenomyeloneuropathy or from patients with these diseases who are being treated with Lorenzo's Oil. It is imperative that clinical data and date of birth (not just age) is always quoted.

VIP (VASOACTIVE INTESTINAL POLYPEPTIDE)

REQUIREMENT: 3ml EDTA plasma **FROZEN**

REF. RANGE: <71 pg/mL

METHOD: RIA

SET-UP: once weekly

RESULTS READY: two days

NOTE: Always send a separate sample for this test.

VITAMIN B1 (THIAMINE)

12703

REQUIREMENT: 5 ml FROZEN EDTA blood; protect from light – wrap tube in aluminium foil

REF. RANGE: 28-85 µg/L

METHOD: HPLC

SET-UP: twice weekly

RESULTS READY: three days later

VITAMIN B2 (FAD)

REQUIREMENT: 2-5 ml EDTA blood (or EDTA blood frozen, send separate sample then); protect from light

REF. RANGE: 180-295 µg/L



METHOD: HPLC
SET-UP: Friday
RESULTS READY: one week later

VITAMIN B6 (PYRIDOXAL PHOSPHATE)

5979
REQUIREMENT: EDTA plasma FROZEN, or Serum, FROZEN
REF. RANGE: 5 – 30 µg/L
METHOD: HPLC
SET-UP: three times weekly
RESULTS READY: next day

VITAMIN B12 (CYANOCOBALAMINE)

16031
REQUIREMENT: 3 ml serum FROZEN, please protect from light
REF. RANGE: 211 - 911 pg/mL
METHOD: CLIA
SET-UP: daily
RESULTS READY: same day

NOTE: The analysis of vitamin B12 has a limited specificity and sensitivity for the determination of vitamin B12 hypovitaminosis, especially at concentrations below 300 pg/mL. Clinical signs of vitamin B12 deficiency may also be seen in patients with vitamin B 12 serum values in the lower reference range, and who also have increased methylmalonic acid values as a metabolic sign of an existing intracellular vitamin B 12 deficiency. Therefore, in cases of patients with vitamin B 12 levels below 300 pg/mL, we suggest the analysis of methylmalonic acid in serum. A normal homocysteine level also virtually rules out a metabolic vitamin B12 as well as folic acid deficiency.

VITAMIN C (ASCORBIC ACID)

REQUIREMENT: 1 ml **FROZEN** Lithium heparin plasma; protect from light - wrap tube in aluminium foil
REF. RANGE: 5.0-15.0 mg/L
METHOD: HPLC
SET-UP: twice weekly
RESULTS READY: 10 days later

VITAMIN D (1,25 DIHYDROXYCHOLICALCIFEROL)

24455
REQUIREMENT: 3 ml serum; freeze and SEND FROZEN
REF. RANGE: 25,0 – 86,5 pg/mL
METHOD: CLIA
SET-UP: Monday through Thursday
RESULTS READY: next day

VITAMIN H SEE BIOTIN

VITAMIN K2

Test includes menachion - 7 and menachion - 4
REQUIREMENT: 2ml serum **FROZEN**
REF. RANGE: see report
METHOD:HPLC
SET-UP: once weekly
RESULT READY: 2 days later

VON WILLEBRAND DIAGNOSTIC

REQUIREMENT: 3 ml citrate plasma **FROZEN**
It will be reported:
vWF: AG(Factor VIII- associated antigen), Factor VIII, VWF: AC (vWF activity)
FVIII / VWF: AG ratio, vWF: AC / vWF: AG ratio and interpretation



Bioscientia Test List Frozen Samples 2019

SET-UP: Monday, Tuesday, Wednesday, Thursday, Friday

RESULT READY: next day

Only vWF AG, Factor VIII and vWF AC is charged for

Please note: these tests are not offered singularly

VON WILLEBRAND FACTOR

If only the "von Willebrand Diagnosis" is written the factor VIII activity, VWF:Ag (factor VIII associated antigen) and VWF:RCO (ristocetin cofactor activity) will be performed and charged for.

VON WILLEBRAND FACTOR Antigen, VWF: AG (FACTOR VIII ASSOCIATED ANTIGEN)

5464

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE FOR ADULTS: 50-160%

METHOD: BCT

SET-UP: Fridays

RESULTS READY: same day

NOTE: Always send a separate sample for this test

NOTE: For children this test is reported age-related. Please quote d.o.b.

VON WILLEBRAND FACTOR MULTIMERS (FACTOR VIII MULTIMERS)

REQUIREMENT: 3 ml citrate plasma, FROZEN

REF. RANGE: see report

METHOD: electrophoresis & Immunoblot

SET-UP: once weekly

RESULTS READY: approx. one-two weeks later

Please note: for this analysis reports for vWF AG, Factor VIII and vWF AC are needed or has to be performed upfront, which will be charged for. Please send the need information with the sample.

VON WILLEBRAND RISTOCETIN COFACTOR ACTIVITY, VWF:RCO

5517

REQUIREMENT: 1 ml citrate plasma, FROZEN

REF. RANGE: 58-172%

METHOD: coagulometric

SET-UP: Fridays

RESULTS READY: same day

NOTE: Always send a separate sample for this test

XANTHURENIC ACID (U)

REQUIREMENT: 10 ml 24h urine, FROZEN - please state volume of 24h urine

REF. RANGE: 3.9-16.7 mg/24h – after loading with 5g L-Tryptophan

METHOD: LC-MS

SET-UP: once weekly

RESULTS READY: one week later

ZONULIN (leaky gut)

REQUIREMENT: 5g faeces frozen

REF. RANGE: 0 – 55 ng/ml

METHOD: ELISA

SET-UP: once weekly

RESULT READY: two days later