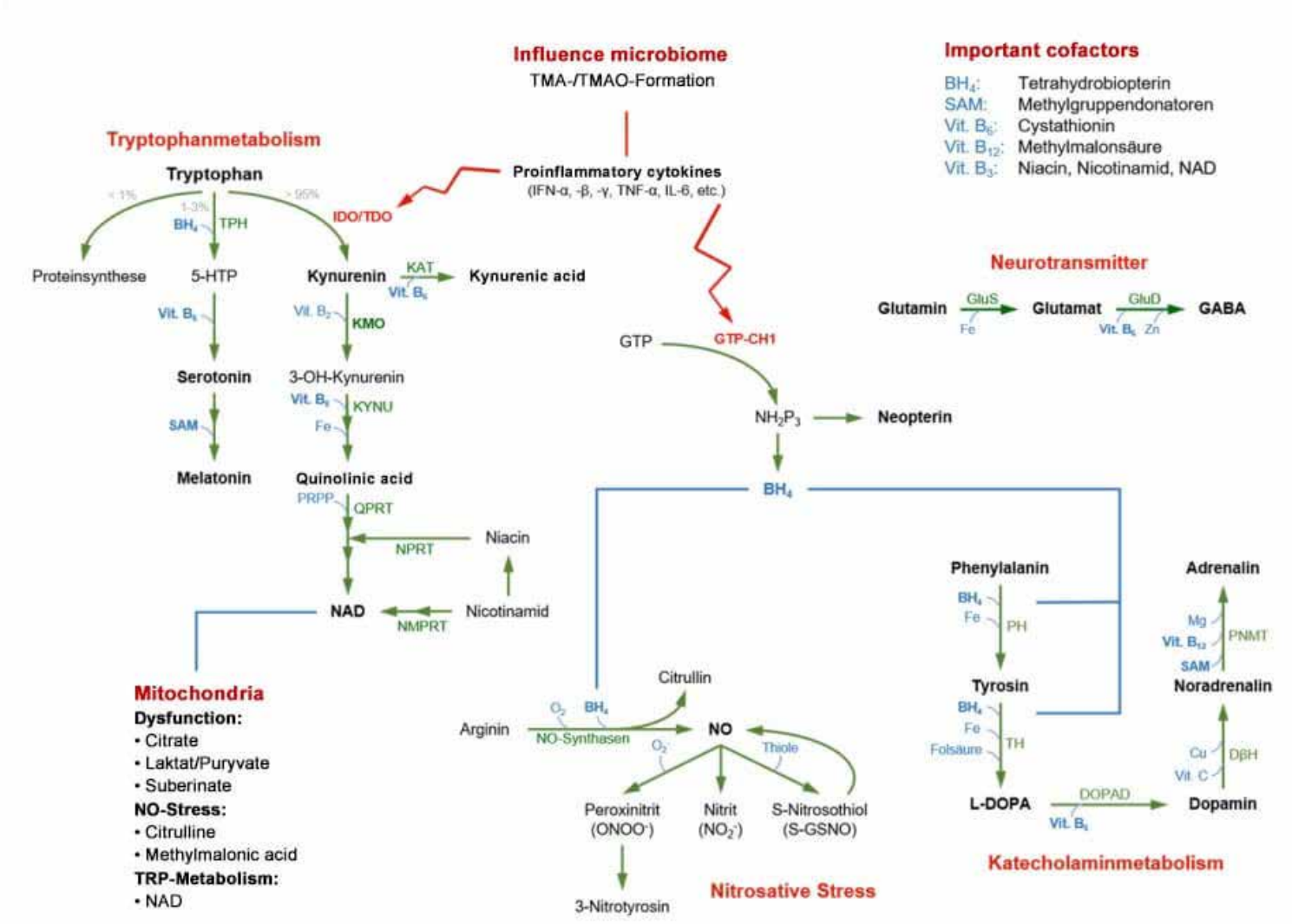
Neurotransmitters XL

Lab test | Urine

Name: **Sample Report** Date of test: **08/29/2023** Analysis-ID: **DUMMY-25**

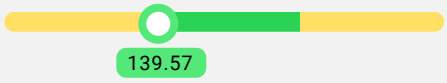
getTested

Neurotransmitters - Tryptophan Metabolism

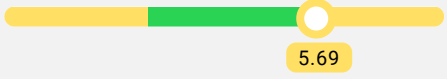


Neurotransmitters XL

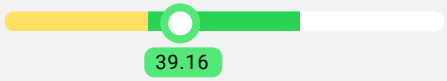
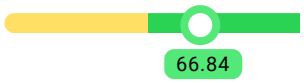
Neurotransmitters

Name	Your value	Reference value	Scale
Dopamine	139.57 µg/g Crea	130 - 240 µg/g Crea	
Noradrenaline	43.67 µg/g Crea	15 - 36 µg/g Crea	
Adrenaline	5.82 µg/g Crea	2,0 - 5,5 µg/g Crea	
Serotonin	145.84 µg/g Crea	80 - 190 µg/g Crea	

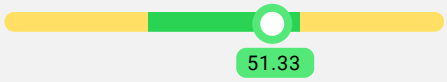
Additional Neurotransmitters

Name	Your value	Reference value	Scale
GABA	5.69 µg/g Crea	1,5 - 5,0 µg/g Crea	
Glutamate	21.83 µg/g Crea	8 - 25 µg/g Crea	

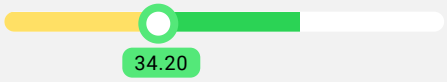
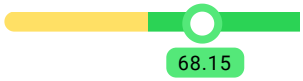
Kynurenine Pathway

Name	Your value	Reference value	Scale
Tryptophan	39.16 µmol/g Crea	> 30 µmol/g Crea	
Kynurenine	2.01 µmol/g Crea	1,0 - 2,7 µmol/g Crea	
Kynurenic acid	4.46 µmol/g Crea	> 6,2 µmol/g Crea	
3-OH-Kynurenine	0.92 µmol/g Crea	0,3 - 1,1 µmol/g Crea	
Quinolinic acid	17.73 µmol/g Crea	18,5 - 32 µmol/g Crea	
NAD (Nicotinamide-Adenine-Dinucleotide)	66.84 nmol/g Crea	> 42 nmol/g Crea	

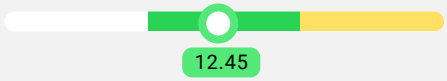
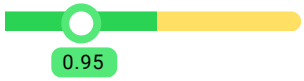
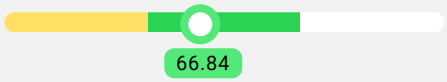
Enzyme activities

Name	Your value	Reference value	Scale
IDO-Activity	51.33 Ratio	31 - 55 Ratio	
KMO-Activity	3.97 Ratio	< 4,2 Ratio	

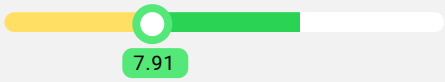
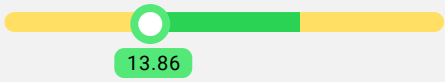
Catecholamine Metabolism

Name	Your value	Reference value	Scale
Phenylalanine	34.20 µmol/g Crea	> 31 µmol/g Crea	
Tyrosine	68.15 µmol/g Crea	> 42 µmol/g Crea	

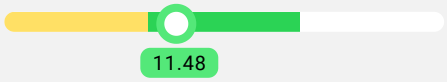
Important Cofactors

Name	Your value	Reference value	Scale
Cystathionine (Vitamin B6)	12.45 µmol/l	< 25,0 µmol/l	
Methylmalonic acid (Vitamin B12)	0.95 mg/g Crea	< 1,8 mg/g Crea	
Nicotinic acid	0.35 µmol/g Crea	> 0,5 µmol/g Crea	
Nicotinamide	3.50 µmol/g Crea	> 1,2 µmol/g Crea	
NAD (Nicotinamide-Adenine-Dinucleotide)	66.84 nmol/g Crea	> 42 nmol/g Crea	

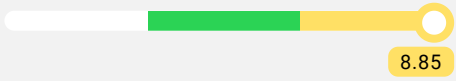
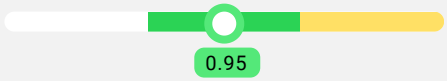
Methyl-Group Donors

Name	Your value	Reference value	Scale
S-Adenosylmethionine	7.91 µmol/g Crea	> 7,5 µmol/g Crea	
Betaine	45.69 µmol/g Crea	29 - 85 µmol/g Crea	
Choline	13.86 µmol/g Crea	13 - 30 µmol/g Crea	

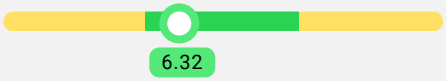
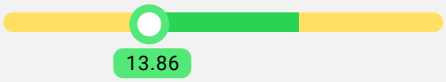
Methylation Capacity

Name	Your value	Reference value	Scale
SAM/SAH Ratio	11.48 Ratio	> 9 Ratio	

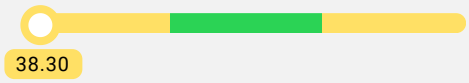
Nitrosative Stress

Name	Your value	Reference value	Scale
Citrulline	8.85 µmol/g Crea	< 4 µmol/g Crea	
Citrate	456.92 mg/g Crea	160 - 786 mg/g Crea	
Methylmalonic acid (Vitamin B12)	0.95 mg/g Crea	< 1,8 mg/g Crea	

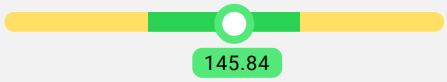
Mitochondrial Dysfunction

Name	Your value	Reference value	Scale
Lactate	6.32 mg/g Crea	1,7 - 20,5 mg/g Crea	
Pyruvate	5.69 mg/g Crea	< 5,4 mg/g Crea	
Suberic acid	1.06 mg/g Crea	< 1,9 mg/g Crea	
Carnitine	219.32 µmol/g Crea	11 - 90 µmol/g Crea	
Choline	13.86 µmol/g Crea	13 - 30 µmol/g Crea	
Carnitine	219.32 µmol/g Crea	11 - 90 µmol/g Crea	

Creatinine

Name	Your value	Reference value	Scale
Creatinine enzyme. (Urine)	38.30 mg/dl	400 - 2780 mg/dl	

Serotonin Pathway

Name	Your value	Reference value	Scale
Serotonin	145.84 µg/g Crea	80 - 190 µg/g Crea	

Extended Information

Neurotransmitters, tryptophan metabolism and relevant factors influencing acute or chronic stress

What is being investigated?

Catecholamines

Serotonin

The levels of serotonin are, among other things, dependent on the presence of sufficient amounts of tryptophan in the diet. Many vitamins and minerals are also important for the formation of serotonin. Intake of too much alcohol, caffeine and amphetamines can inhibit the production of serotonin in the body. Chronic stress, anxiety and other similar emotions also prevent the brain from producing the right amount. Serotonin deficiency can affect physical and mental health and can sometimes be difficult to identify. When there is a great lack of serotonin, it can, for example, give rise to bad mood, stress and depression.

To increase the production of serotonin, one can increase the intake of tryptophan in the diet, in combination with foods rich in vitamin B6 and magnesium needed to convert tryptophan to serotonin. Keep in mind, however, that an increased intake of protein can inhibit the uptake of tryptophan. Exercise can also have a positive effect on serotonin production, especially endurance sports.

GABA

Gamma-aminobutyric acid (GABA, 4-aminobutyric acid) is the neurotransmitter with the largest physiological supply and the most important neurotransmitter in the central nervous system. Endogenous synthesis of GABA takes place with the help of the enzyme glutamate decarboxylase, it is synthesized from the excitatory neurotransmitter glutamine, with which GABA exists in equilibrium.

If there is a deficiency of gamma-aminobutyric acid, a therapeutic administration of GABA or a modulation of the GABA receptor becomes an option.

In case of therapeutic administration, initially 0.5 - 1 g of GABA is administered at night and if it is tolerated well the dose can be stepped up to six months 2 x 1 g daily. Passionflower and valerian preparations are suitable for receptor modulation. Valerian preparations should mainly be given in the evening, as they have a stronger sedative effect than passionflower preparations.

Glutamate

Glutamic (i.e. glutamic acid) is the most important excitatory neurotransmitter. The concentration of the neurotransmitters glutamine and GABA is approximately 1000 times higher than the concentrations of norepinephrine or dopamine. Among other things, glutamine is important for learning, memory and motor skills.

In case of low glutamine levels, glutamic acid can be given in a dose of 1 - 3 g per day, split up into multiple smaller doses. Intake should take place before meals. If possible, ducts to better resorption. Excessive elevated glutamine levels can have neurotoxic effects, it is important to monitor the levels.

If glutamine is elevated, excessive intake must first be ruled out (e.g. resulting from poor enterocytes). Because GABA is the physiological antagonist of glutamine, it is necessary to strengthen the effect of GABA at the receptors. This is possible with herbal therapies such as passionflower or valerian preparations. Attention must be paid to sufficient dosing of both herbal therapies.

Tryptophan metabolism

Phenylalanine and tyrosine

Availability of important cofactors in neurotransmitter and tryptophan metabolism

1. Vitamins

2. Tetrahydrobiopterin (BH4)

3. Methyl group donors

Influence of stress levels on mitochondria

NO stress / mitochondria

Nitrosative stress

Mitochondrial functional markers for orientation

Neopterin – Signs of immune activation

TMAO production as a cause of inflammations and arteriosclerosis

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