



Regenerus Laboratories

Sample Report 4M5339

Aero 14, Kings Mill Lane

M/W: W

GB-RH1 5JY Redhill, Surrey

Address .

Requested 16.10.2018

Fax:

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APNr 4095

Height cm **Weight** kg **Body Mass Index** **Reported** 25.10.2018

ANAMNESE

Keine Angaben

RESULTS OVERVIEW

1. Citrullin is normal, no evidence of elevated NO-production.
2. No evidence of nitrosative stress: nitrotyrosin is normal.
3. Methylmalonic acid is within normal range, no evidence of functional deficiencies in provision of vitamin B12.
4. MCP-1 and Interleukin 23 are raised, possible evidence of a chronic inflammatory TH17 triggered process (i.e. allergic asthma, could also be chronic infection, chronic inflammatory intestinal disorder, rheumatoid arthritis, multiple sclerosis, psoriasis or autoimmune myocarditis).

Further therapeutic control recommended.

THERAPEUTIC RECOMMENDATIONS:

In patients with the relevant clinical symptoms a targeted inhibition therapy of the Th17 axis is recommended, because of the results for the serum cytokine profile, performing an IL23 inhibition test would assist in determining the correct antiinflammatory therapy. A chronic infection should first be excluded and on depending upon the patients clinical situation, further serological tests and direct test in sputum for evidence of Mycoplasma pneumoniae, Chlamydia pneumoniae and or the ITT Chlamydia / ITT-TBC should be performed.

Kind Regards

Dipl.Biol. B. Knabenschuh /Dipl.Biol.W.Mayer

BASIC CHECK UPS



Citrulline (U/Creat.)	91,2	µmol/g Krea	< 100	<input style="width: 100px; background-color: #cccccc; border: 1px solid #000; position: relative; height: 15px; border-bottom: none; border-top: none; border-left: none; border-right: none;" type="text"/> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -50%);">●</div>
Creatinine (U)	69,3	mg/dl	40 - 160	<input style="width: 100px; background-color: #cccccc; border: 1px solid #000; position: relative; height: 15px; border-bottom: none; border-top: none; border-left: none; border-right: none;" type="text"/>

NEUROFUNCTION

S-100	53	pg/ml	1 - 144	<input style="width: 100px; background-color: #cccccc; border: 1px solid #000; position: relative; height: 15px; border-bottom: none; border-top: none; border-left: none; border-right: none;" type="text"/> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -50%);">●</div>
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OXIDATIVE STRESS

Nitrotyrosine in Plasma	311	nmol/l	< 533	<input style="width: 100px; background-color: #cccccc; border: 1px solid #000; position: relative; height: 15px; border-bottom: none; border-top: none; border-left: none; border-right: none;" type="text"/> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -50%);">●</div>
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ESSENTIAL NUTRIENTS



Methylmalonic acid (U/Crea)	1,43	mg/g KREA	< 2,0	<input style="width: 100px; background-color: #cccccc; border: 1px solid #000; position: relative; height: 15px; border-bottom: none; border-top: none; border-left: none; border-right: none;" type="text"/> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -50%);">●</div>
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Inflammation

Neurogenic Inflammation

Interleukin 18 (S)	59,1	pg/ml	< 150	
Interleukin 12 (S)	0,1	pg/ml	< 0,2	
Interleukin 1β (S)	<5,0	pg/ml	< 5	
Interleukin 6 (S)	<2,0	pg/ml	< 4	
Interleukin 17 (S)	0,1	pg/ml	< 1,0	
Interleukin 22 (S)	0,1	pg/ml	< 1	
Interleukin 23 (S)	32,0	pg/ml	< 1	
TGF-beta (S)	30,3	ng/ml	< 63	
MCP-1	104	pg/ml	< 100	

EXPLANATION

IL23 belongs to IL12 cytokine family and is primarily produced in the antigen presenting cell (dendritic cells) and consists of p19 and p40 subunits. It triggers the activation and differentiation of TH17 cells and thereby boosts the formation of the proinflammatory messengers IL17 and IL22. Evidence exists that IL23 plays a central role in the pathogenesis of autoimmune processes, chronic intestinal disorders (Crohn's Disease), psoriasis, rheumatoid arthritis and multiple sclerosis.

M C P - 1 (Monocyte Chemotactic Protein -1) belongs to the CC chemokine group : these are small inducible proinflammatory molecules sometimes known as CCL2 (chemokine ligand 2). MCP-1 / CCL2 recruits monocytes, basophils, T cell and dendritic cells at the site of inflammation or infection and increases the immune cell activity. Increased levels are often found in rheumatoid arthritis and psoriasis.

MCP-1 is also formed in the bone cells (osteoblasts and osteoclasts) where along with RANKL is controls the differentiation of the bone cells.

MCP-1 is also expressed by the cells of the central nervous system (CNS) (neurons, astrocytes, glia cells). It is involved in neuroinflammatory processes and increased levels are found in epilepsy, Alzheimer's disease, autoimmune encephalitis and brain damage. Melatonin inhibits MCP-1 secretion.