

Profile Humoral Immunity

... meaningful immune diagnostics

The profile humoral immune activity (HI) is the first step of **meaningful immune diagnostics**. It clearly and quickly records the immune status thus providing for quick application of suitable therapies. If patients with significant cellular deficits (often patients suffering from tumours) are concerned, the humoral immunity profile should be supplemented by a cellular immune status (lymphocyte differentiation).

Profile Humoral Immunity - Indications

- allergies
- neurodermatitis, psoriasis, acne
- borreliosis (chronic) fibromyalgia
- chronic pains
- chronic exhaustion
- irritable colon, chronic inflammatory gastrointestinal diseases
- rheumatoid arthritis, reactive arthritis
- Bektherev's disease
- malign tumours

Profile Humoral Immunity – Analyses

1. C-Reactive Protein (CRP)

The CRP-value is the most important marker for diagnostic and process evaluation of inflammatory immune reactions. Biovis determines CRP by using a special measuring method, which safely determines subliminal as well as strong inflammations. Thus the whole immunologically relevant range of CRP can be covered by only one very accurate measurement.

2. Soluble Interleukin-2-Receptor (sIL2R)

sIL2R correlates with interleukin-2 (IL-2) in blood. IL-2 is mainly developed by T-helper cells and acts as general growth factor and activator on T-helper cells, cytotoxic T-cells, NK-cells and B-lymphocytes. sIL2R is – compared to IL-2 – significantly more stable providing for blood sample transport (maximum 24 hours) without influencing the results. sIL2R therefore safely indicates T-lymphocytes activation and thus reflects the activity of the specific immune system.

3. Neopterin

Neopterin shows macrophage activation after stimulation by interferon- γ . Therefore this analysis can indirectly provide information about the interferon- γ synthesis.

Increased neopterin values may indicate following diseases:

- viral infections
- infections caused by different intracellular pathogens
- rheumatoid arthritis
- lupus erythematosus
- Sjögren's syndrome
- sarcoidosis
- multiple sclerosis
- additional autoimmune diseases
- chronic inflammatory gastrointestinal diseases

In case of malignant tumours the neopterin value increases with tumor growth provided the immune system is not influenced by cytostatic therapies. Also immune stimulating therapies, like for example mistletoe may lead to neopterin increases.

The Humoral Immunity Profile can provide following additional information:

1. Differential Diagnosis of Infections

In case of increased CRP the neopterin analysis helps to differentiate between bacterial and viral infections.

2. Correlation - Chronic Pain

Chronic pains induce increased development of nitrogen monoxide (NO) in the body. One of many consequences of this so-called nitrosative stress is increased development of the transcription factor NF κ B, which induces immune cells to develop more interferon- γ and pro-inflammatory cytokines (e.g. tumour necrosis factor, interleukin-1). The development of interferon- γ is analysed via neopterin in the scope of profile HI, the development of pro-inflammatory cytokines via CRP.

3. Correlation - Pain Processing

Increased neopterin levels lead to tryptophan deficiency and thus to serotonin deficiency, which interferes with pain processing.

4. Correlation – Pain Intensification

Inflammatory cytokines cause pain intensification, e.g. by local acidosis of inflamed tissues.

5. Lymphopenia and Specific Immune Response

Pain-related stress leads to increased cortisol release. This might cause lymphopenia as well as suppression of the specific immune defence, possibly leading to low sIL2R values in the Humoral Immunity Profile.

6. Depression

The possible serotonin deficiency caused by increased neopterin values may be responsible for frequently occurring depressions in case of chronic pain and other chronic diseases.

Thus the Humoral Immunity Profile determines the causal interrelation between pathologic acti-

vation of the immune system and chronic pains, as well as often correlating depressions and makes way for new therapies.

Request and Required Material

The profile can be requested by ticking No. D240 on our request form. Should this number not be listed on your forms (older edition), it is sufficient to write "Profile Humoral Immune Activity" by hand under "Special Request".

Material

For the Humoral Immunity Profile two filled serum tubes are required. They have to be protected against light - by wrapping them in aluminium foil for example - directly after sample withdrawal.

Additional Tests

In case of certain indications it might be sensible to request supplementary tests aside from the Humoral Immunity Profile:

Indication	Sensible Additional Analyses	Please send additional sample material
Malign Tumours after Cytostasis	Cellular Immune Status	2 x EDTA
Progressed Malign Tumours	Cellular Immune Status, NK-Cell-Activity	2 x EDTA, 4 x heparin
Rheumatoid Arthritis	CCP-antibodies, RF, ANA, IL-2, TNF	Serum, 2 x frozen serum
Reactive Arthritis	Yersinia antibodies, chlamydia antibodies, borrelia antibodies, HLA-B27	2 x serum, 2 x EDTA
Bektherev's Disease	HLA B27, IL-1, TNF	2 x EDTA, 2 x frozen serum
Chronic Borreliosis	CD3-CD57+NK-cells, Borrelia Elispot, Borrelia Antibodies	1 x serum, 3 x heparin, 2 x EDTA
Irritable Colon	Special IgE and IgG4 antibodies	2 x serum
Chronic Inflammatory Gastrointestinal Diseases	Calprotectin, special IgE and IgG4 antibodies, Lymphocyte Transformation Tests	2 x serum, 1 x stool
Allergies	ECP, special IgE and IgG4 antibodies Lymphocyte Transformation Tests	1 x serum (centrifuge immediately!) 2 x serum, 4 x heparin
Neurodermatitis	ECP, special IgE and IgG4 antibodies Lymphocyte Transformation Tests	1 x serum (centrifuge immediately!) 2 x serum, 4 x heparin

**Do you have further questions?
Please call us!
We gladly provide information!**

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