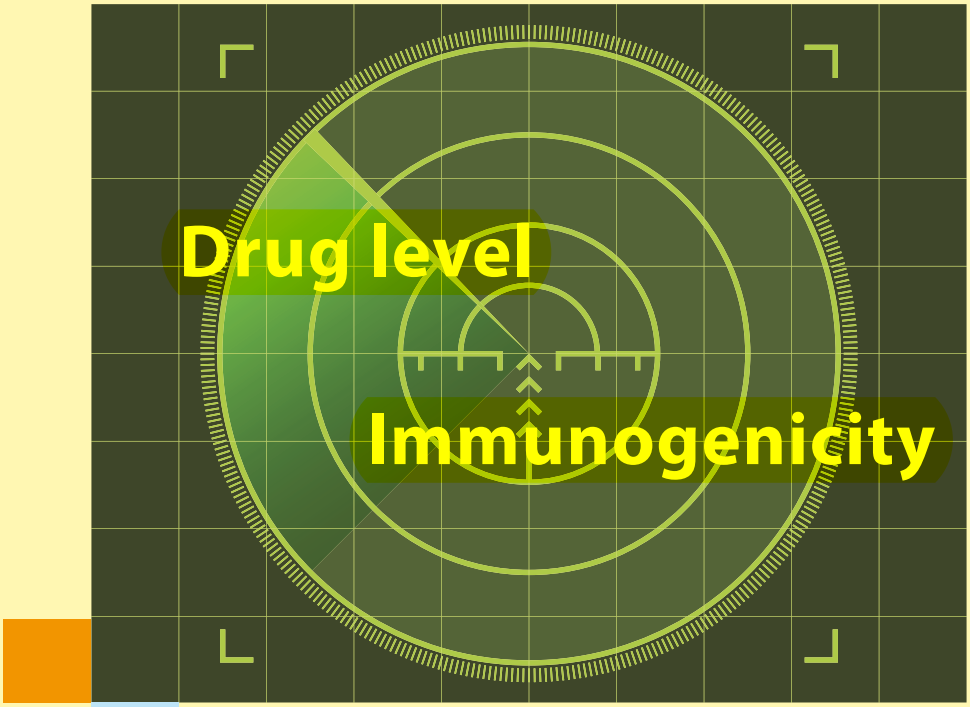
TNFα-Blocker-Therapy

Everything under control ?



Individual Monitoring Facilitates Therapy Management

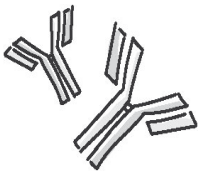
TNFα-Blocker-Monitoring ELISAs

- For drug level analysis in serum
- Specific determination of different TNFα-Blocker (e.g. Remicade®, Humira®)
- High sensitivity

TNFα-Blocker-ADA ELISAs

- For the detection of anti-drug-antibodies (ADA)
- Determines immunogenicity of e.g. Remicade®, Humira®, or Enbrel®
- No co-determination of rheuma factors or irregular antibodies

immun diagnostik



TNFα Blocker Therapy Monitoring

Determination of individual drug-efficiency in chronic inflammatory diseases

TNFα - key player of chronic inflammations

Tumour Necrosis Factor alpha (TNFα) belongs to the pro-inflammatory cytokines that encourage and uphold infections. Cytokines, produced by macrophages and T-cells, play a central role in both acute and chronic infections. TNFα concentration is elevated in a variety of chronic inflammatory diseases (e.g. rheumatic diseases or Crohn's disease) which obviously affects pathogenesis and clinical course of these illnesses.

The overproduction of TNFα can be inhibited by TNFα blockers (anti TNFα-antibodies). Infliximab (Remicade®) and Adalimumab (Humira®) for example are applied in the clinical therapy of chronic inflammations and are approved for the treatment of rheumatoid arthritis. In addition, Infliximab is approved for the treatment of Crohn's disease, ankylosing spondylitis, psoriasis and psoriatric arthritis).

TNFα - Blocker drug level and immunogenicity: The two most influencing parameter of therapy success

The long term effectiveness of TNFα Blockers in chronic inflammations is strongly influenced by bioavailability, pharmacokinetics and immunogenicity of the agents. In individual therapy management, these parameters can be governed by dosage variation, choice of compound and, if indicated, additional treatment with immunosuppressants. The goal is to optimally adjust the therapy to the clinical course of an indivdual patient and to reduce adverse effects.

An important tool to assess therapy efficiency is the determination of TNFα Blocker serum level (Seow et al., 2009; Bendtzen et al., 2009). Especially monitoring of the trough level is indicated to ensure an adequate drug concentration in the circulation and to adjust the dosage if necessary.

Furthermore, TNFα Blocker may exhibit individually varying grades of immunogenicity which affect efficiency and can lead to hypersensitivity and adverse effects. Some patients for example generate antibodies against TNFα Blocker (Anti-Drug-Antibodies, ADA), which impede drug activity and may cause severe allergic reactions. A concommittant therapy with immunosuppressants can reduce antibody formation but is not always indicated (Radstake et al., 2008; Ainsworth et al., 2008; Baert et al. 2007; Bender et al., 2006).

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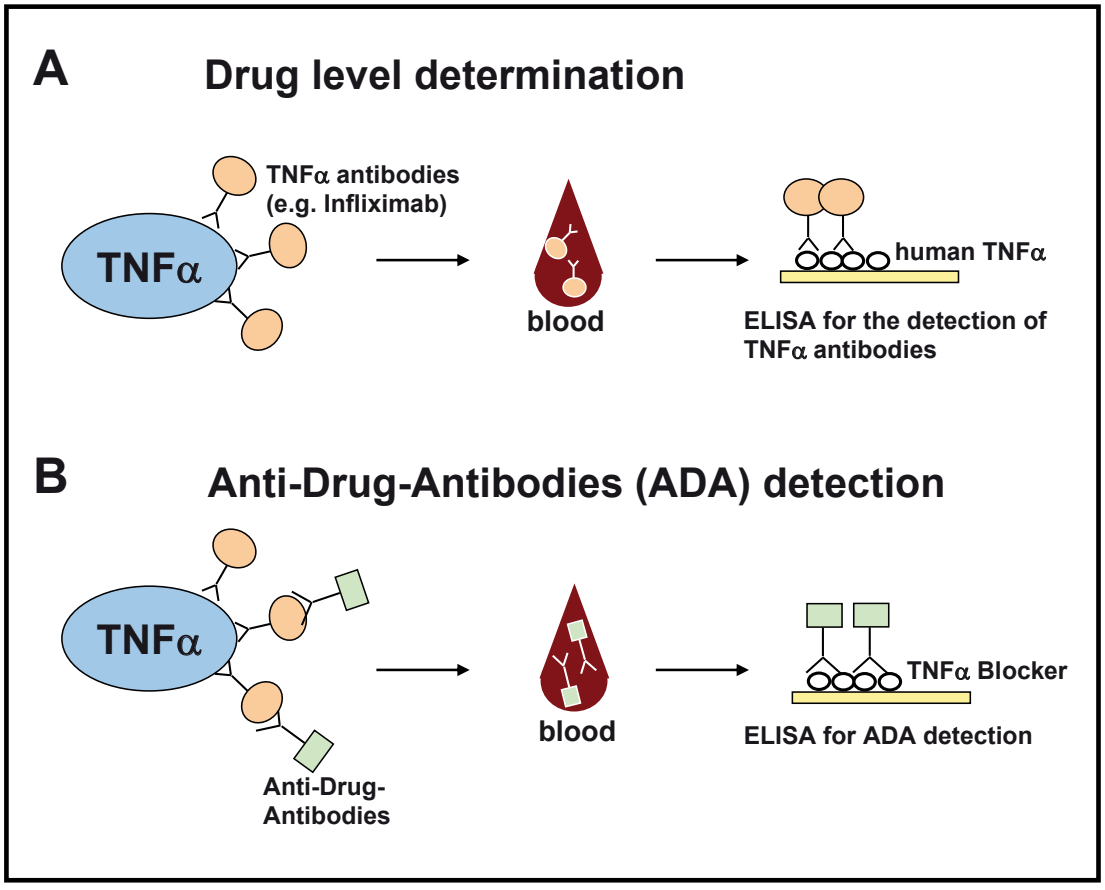
Two ELISA-Systems enable personalized therapy monitoring

Immundiagnostik offers adequate tools for the individual monitoring of a TNFα Blocker-therapy:
Our ELISAs for the quantitative determination of the drug level (e.g. Remicade®, Humira® , s. Fig. A) permits the assessment of bioavailability and our ELISAs for ADA-detection provide information on the immunogenicity of the respective TNFα-Blocker (e.g. Remicade®, Humira®, Enbrel®, s. Fig. B).

These assays are therefore an ideal combination for effective therapy monitoring and control and ultimately enable the implementation of a comprehensive, successful therapy with reduced side effects.

➔ Double control of TNFα Blocker therapy with 2 ELISAs ←



Literature

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TNFα-Blocker-Monitoring ELISAs

For drug level determination (z.B. Remicade®, Humira®)

We offer:

TNFα-Blocker-Monitoring (drug level, e.g. Remicade®)	
Sample volume	100 µl
Matrix	Serum
Incubation	1h, 1h, 10-20min
Test principle	ELISA
Tests	96
Cat. No.	**K 9655**

TNFα-Blocker-Monitoring (drug-level, e.g. Humira®)	
Sample volume	100 µl
Matrix	Serum
Incubation	4h, 1h, 10-20min
Test principle	ELISA
Tests	96
Cat. No.	**K 9657**

Our ELISAs determine the drug concentration in serum with high sensitivity due to a titer test which uses human recombinant TNFα as antigen.

TNFα-Blocker-ADA ELISAs

For the determination of anti-drug-antibodies (ADA)

e.g. against Remicade®, Humira®, Enbrel®

We offer:

TNFα-Blocker-ADA (anti-drug-antibodies, e.g. Humira®)	
Sample volume	5 µl
Matrix	Serum
Incubation	o.n., 1h, 5-10min
Test principle	ELISA
Tests	96
Cat. No.	**K 9652**

TNFα-Blocker-ADA (anti-drug-antibodies, e.g. Remicade®)	
Sample volume	5 µl
Matrix	Serum
Incubation	o.n., 1h, 5-10min
Test principle	ELISA
Tests	96
Cat. No.	**K 9650**

TNFα-Blocker-ADA (anti-drug-antibodies, e.g. Enbrel®)	
Sample volume	5 µl
Matrix	Serum
Incubation	o.n., 1h, 5-10min
Test principle	ELISA
Tests	96
Cat. No.	**K 9653**

Our ELISAs enable the detection of human antibodies against different compounds. A co-determination of rheuma factors or irregular antibodies can be excluded.

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