

Personalised medicine:

### Therapeutic Drug Monitoring using IDKmonitor® assays

Measuring biological drug levels and anti-drug antibodies in sera enables clinicians to:

- Predict therapy success
- Optimise therapeutic strategies
- Decide on treatment options following loss of response or adverse events
- Undertake patient compliance studies

- Range of drug level ELISAs and anti-drug antibody ELISAs
- Compatible with biosimilars
- Easy to set up and run, automatable
- Service available from UK reference laboratories
- Evidence base from UK and European cohorts

Need advice for setting up or accessing a service? Call BIOHIT HealthCare on +44 151 550 4 550 or email [info@biohithealthcare.co.uk](mailto:info@biohithealthcare.co.uk)

## Therapeutic drug monitoring

### IDKmonitor®

Product Code	Drug level ELISAs
K9646	Etanercept
K9655	Infliximab
K9656	Golimumab
K9657	Adalimumab
K9658	Vedolizumab
K9660	Ustekinumab
K9661	Rituximab
Product Code	Anti-drug antibody ELISAs
K9648	Vedolizumab Free Anti-drug antibodies
K9649	Golimumab Free Anti-drug antibodies
K9650	Infliximab Free Anti-drug antibodies
K9651	Adalimumab TOTAL Anti-drug antibodies
K9652	Adalimumab Free Anti-drug antibodies
K9653	Etanercept Free Anti-drug antibodies
K9654	Infliximab TOTAL Anti-drug antibodies
K9666	Ustekinumab Free Anti-drug antibodies

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Therapeutic drug monitoring

IDKmonitor®

PERSONALISED MEDICINE

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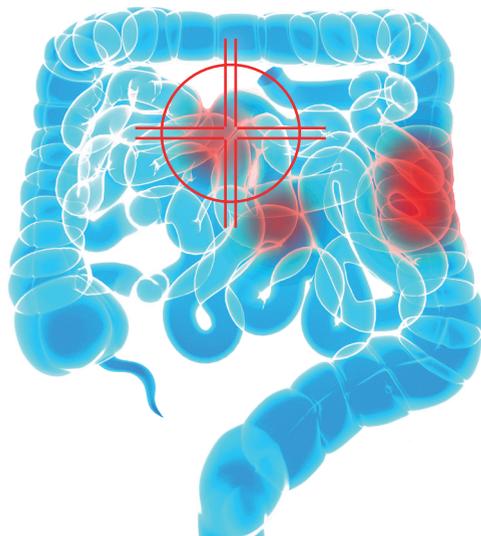
## Therapeutic drug monitoring

### IDKmonitor®

Dysregulation of cytokines and inflammatory proteins that promote local and systemic inflammation has been indicated in a number of chronic inflammatory diseases including Inflammatory Bowel Disease (IBD), Rheumatoid and psoriatic arthritis, Alzheimer's disease, cancer, and depression.

Biologic drugs that target Tumour necrosis factor alpha (TNF $\alpha$ ), Interleukins (IL), and Integrins to inhibit their action are effective at reducing inflammation, minimising tissue damage and bringing about clinical remission.

As part of a personalised therapeutic approach to managing chronic inflammatory conditions biological drugs have shown to be effective in monotherapeutic strategies as well as in combination with other disease modifying drugs (such as immunomodulators).



## IDKmonitor® assays for chronic inflammatory diseases

Whilst biological therapies are extremely effective at bringing about a positive clinical response, for some patients response is challenging. For example, in Crohn's disease evidence shows that up to 40% of patients treated with anti-TNF $\alpha$  blockers don't respond during the induction phase. Of those who do respond, a further 20-40% lose response during the first year.

Recent advances in therapeutic drug monitoring using IDKmonitor® assays have helped clinicians to identify, predict, and manage loss of response. This has been made possible thanks to the increasing amount of evidence substantiating the benefits of using IDKmonitor® assays in routine clinical care from cohorts in the UK and Europe.

Predict response  
Treat to target  
Step up/down treatment  
Select concomitant therapy  
Switch drugs  
Evaluate drug restart risks  
Reduce drug spend

IDKmonitor® assays enable the assessment of bio-availability and provide information on the immune response to the respective biologic. By measuring serum trough levels (before drug administration) it is possible to monitor how effective the drug is likely to be.

Biological drugs are recombinant proteins and therefore potentially immunogenic

When a patient presents with loss of response, their drug level might be sub-therapeutic due to increased drug clearance or loss, insufficient dose, or immunogenicity. It is important to differentiate the cause so that appropriate and effective action can be taken to regain control of the disease.

Knowing the serum drug trough level and Anti-drug Antibody status prior to infusion/injection could help deliver significant health and cost benefits by evaluating the efficacy of ongoing treatment.



The presence of Anti-drug antibodies (ADA) is associated with Loss of Response

#### **TOTAL anti-drug antibody (tADA) assays**

tADA assays are "drug-tolerant" and so can be used at any time as they are independent of the presence of drug. tADA assays dissociate Drug:ADA complexes, freeing up the ADAs for measurement.

#### **FREE anti-drug antibody (fADA) assays**

Unlike tADA assays, fADA assays detect only Free anti-drug antibodies i.e. those that are not bound to/masked by drug. The presence of drug blocks ADA detection in fADA assays.

Read more at: [www.biohithealthcare.co.uk/therapeutic-drug-monitoring](http://www.biohithealthcare.co.uk/therapeutic-drug-monitoring)