



## IMMUNOHEMATOLOGY

# Positive DAT-Clinical Significance?

The determination of IgG subclasses as well as the amount of IgG coated per red blood cell help to further assess the clinical significance of red cell allo- and auto-antibodies.

There is still a need to improve the diagnosis of immune-mediated clinical hemolysis. The direct anti-human globulin test (DAT) with anti-IgG is an essential diagnostic tool, but this test does not provide any information about the subclass composition of the IgG-antibodies. Several subclasses of red cell IgG-antibodies exist, but only the subclasses IgG1 and IgG3 are considered to be clinically relevant in inducing accelerated red cell destruction.

## To Improve the Diagnosis of Immune-Mediated Red Cell Destruction



### The DAT IgG-Dilution ID-Card

assists in making the following determinations, based on results from clinical trials\*:

- Positive DAT as a phenomenon without risk of accelerated red cell destruction
- Positive DAT as an indication of hemolysis in autoimmune hemolytic anemia (AIHA)
- Positive indirect AHG test to assess the likelihood of hemolytic disease of the newborn (HDN)

\* *Determination of the amount of IgG-antibodies bound to red cells and of the subclasses IgG1 and IgG3: comparison of the gel centrifugation test (GCT) with flow cytometry (FC); R. Lynen, Georg-August-Universität Göttingen, Germany; published at the ISBT 2000 Vienna*

\*\* *A newly developed gel centrifugation test for quantification of RBC-bound IgG antibodies and their subclasses IgG1 and IgG3: comparison with flow cytometry; published at the Transfusion Volume 42, May 2002*



### The DAT IgG1/IgG3 ID-Card

is available for the determination of the antibody subclasses IgG1 and IgG3\*\*.

The level of sensitivity of the respective IgG1 and IgG3 antisera is adjusted in order to assess the risk for red cell destruction *in vivo*.

NB: A DAT positive result associated with a HTR is significant regardless of the strength of reaction and must be investigated further.



Test system	Result	Description	Test system	Result	Description
 <p>LISS/Coombs</p>	Negative $< 2+$ $\geq 2+$	Negative Very weak positive <b>Monospecific DAT card is recommended</b>	 <p>DAT IgG-Dilution</p>	Negative $\leq 1:30$ $> 1:30$	Negative Weak positive (IgG) Low risk of hemolysis <b>Strong positive (IgG)            High risk of hemolysis</b> <b>Determination of the IgG subclasses is recommended using the DAT IgG1/IgG3 ID-Card</b>
 <p>DC-Screening I or DC-Screening II*  <i>* Image not provided</i></p>	Negative $< 2+$ (IgG) $\geq 2+$ (IgG)	Negative Weak positive (IgG) (not titrated) <b>IgG-Dilution (titration) card is recommended</b>	 <p>DAT IgG1/IgG3</p>	<b>Result interpretation</b> Positive 1:1 – moderate risk of hemolysis Positive 1:100 – high risk of hemolysis	<b>The DAT IgG1/IgG3 ID-Card allows to assess the risk of hemolysis due to IgG1 and/ or Ig3 antibodies coated on red blood cells</b>

### Features and Benefits

The ID-Cards containing standardized dilutions of an anti-IgG, anti-IgG1 and IgG3 subclasses, bring relevant clues in a context of positive DAT to better assess the risk of hemolysis.

The test procedure itself is similar to the well-known DAT procedure in the ID-System.

#### Easy to use

- Direct use: titrated AHG in the gel matrix

#### Specific

- Risk of hemolysis? You will get the answer!

### Ordering Information

Catalog #	Description
004033	DAT IgG-Dilution (Id-n°: 50870), 1 x 12
004043	DAT IgG1/IgG3 (Id-n°: 50890), 1 x 12

Visit [www.bio-rad.com/immunohematology](http://www.bio-rad.com/immunohematology) for more information.



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