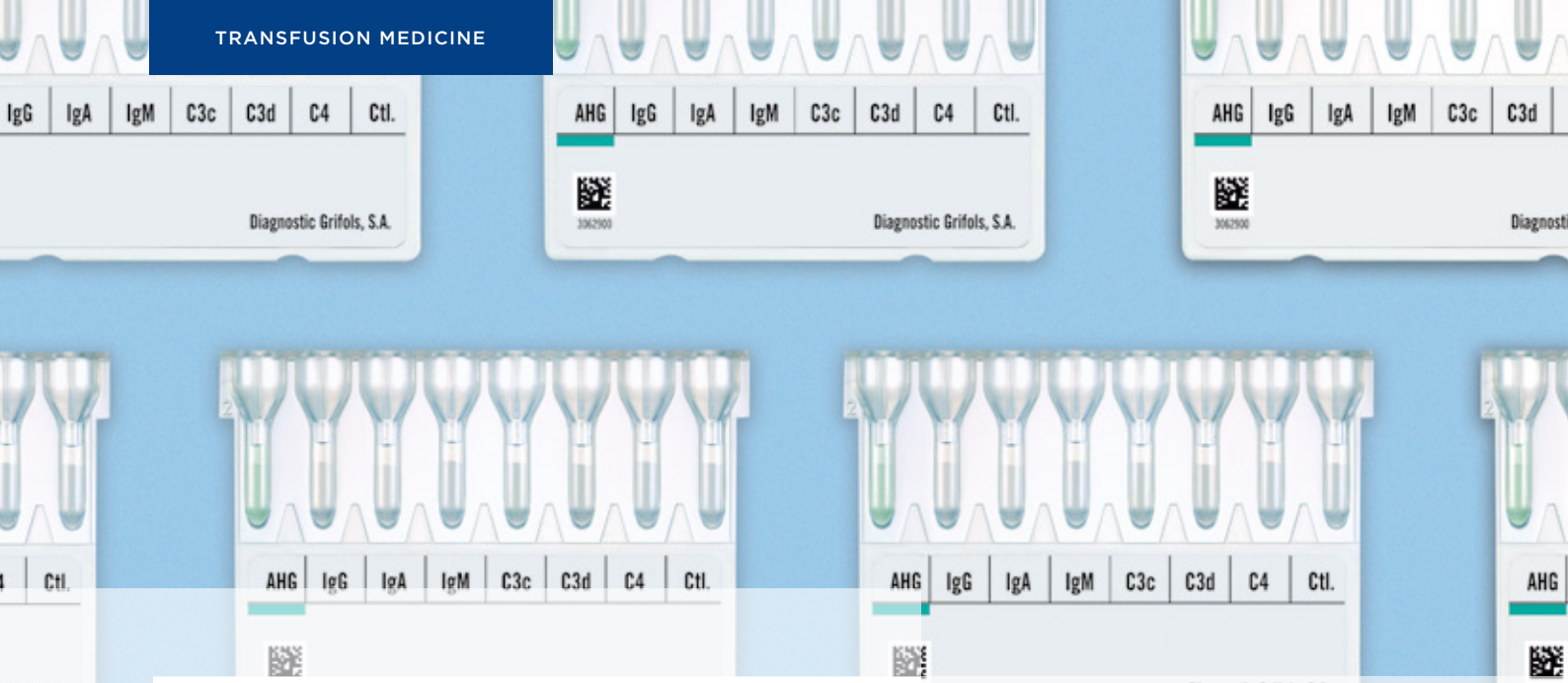
TRANSFUSION MEDICINE

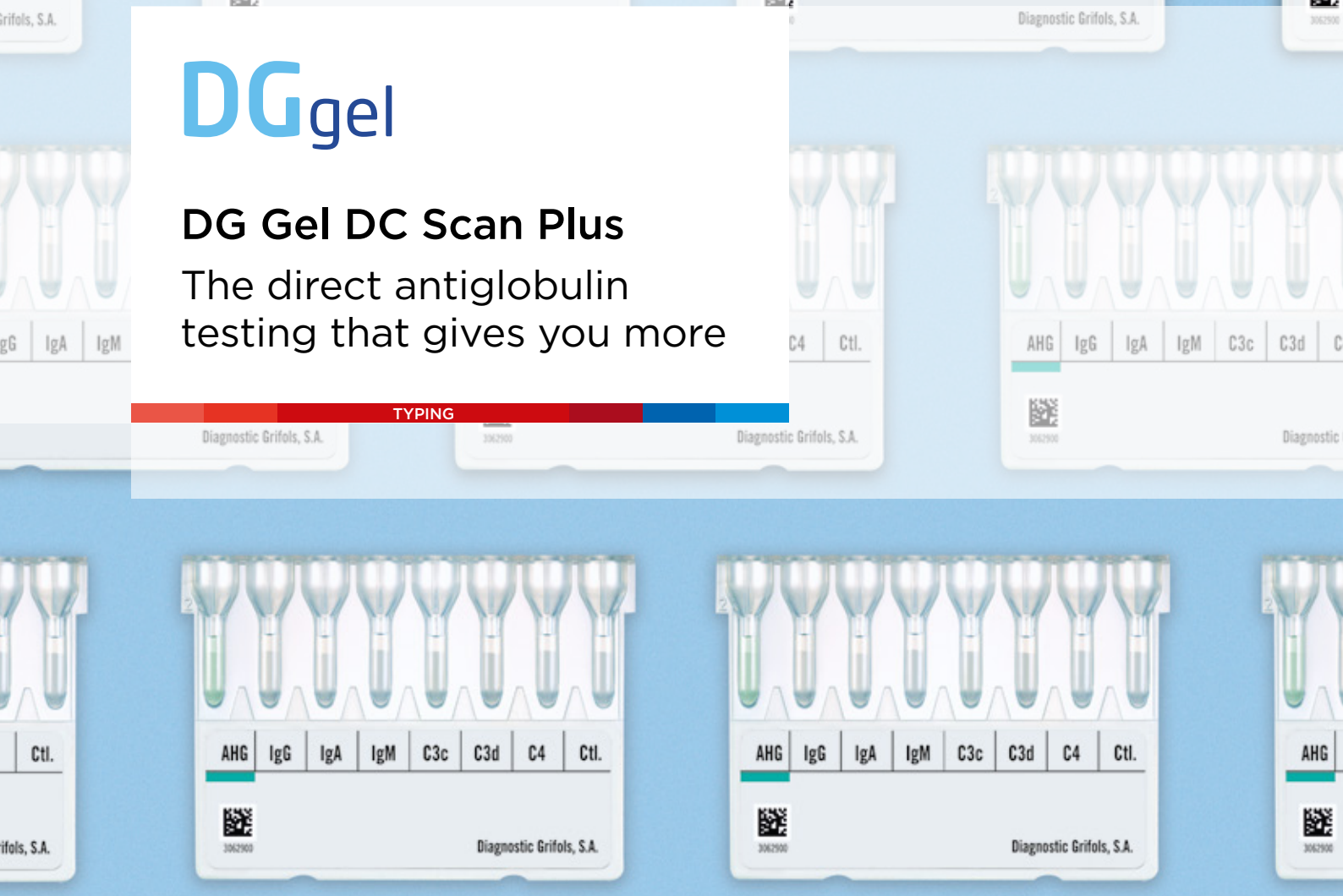


DGgel

DG Gel DC Scan Plus

The direct antiglobulin testing that gives you more

TYPING



GRIFOLS

The direct antiglobulin testing that gives you more

Clinical situations are complex. When your patient is hemolyzing, you need a simple, rapid, and comprehensive test on hand to distinguish immune from nonimmune hemolytic anemia[1].

DG Gel DC Scan Plus is a new DAT testing option from Grifols that gives you more. Extend your DAT testing beyond the routine by detecting IgG, IgA, IgM, C3b, C3d, and C4b with **DG Gel DC Scan Plus** without additional time or reagents[1,2].

When there is no time to waste, the Grifols DG Gel portfolio of products is available as your complete solution to address all the challenges your lab faces. With **DG Gel DC San Plus**, you can improve patient management while consolidating several procedures on a single DG Gel card[1,2,3].

Improve patient care

Extending the specificity of the DAT reagents beyond the routine anti-IgG and anti-C3d reduces false-negative results, increases sensitivity and specificity of the DAT test, and improves patient management in AIHA[2,3,4].

Simplify operations

Unify all testing protocols with a simple method to make the right decision based on diagnostic evidence.

Enhance efficiency

In a case of hemolytic anemia, there is no time to waste. Have your results on time to start treatment and avoid clinical complications.

Extending the specificity of the DAT reagents in specific clinical situations

- For the investigation of those clinical situations where the presence of hemolysis has been established or is suspected, to distinguish immune from nonimmune hemolytic anemia[1]
- For the investigation of[3,5]:
  - Autoimmune hemolytic anemia (AIHA)
  - Hemolytic disease of the fetus and neonate (HDFN)
  - Hemolytic transfusion reactions (HTR)
  - Hemolytic reactions related to allogeneic stem cell transplant or solid organ transplant
  - Drug-induced immune hemolytic anemia (DIHA)

The four types of AIHA have different immune effects, symptoms, and treatments. For this reason, detecting different isotypes of immunoglobulins or different fractions of the complement system can be helpful in the diagnosis of the type of AIHA[1,5].

AIHA	Warm AIHA (WAIHA)[1]	It is the most prevalent type, and it is **usually mediated by IgG antibodies** that react at warm temperatures; nevertheless, some cases have been reported to be mediated by IgA antibodies.
	Cold agglutinin disease (CAD)[6]	It is the second most common type, **mostly mediated by cold IgM antibodies with the ability to activate complement system**. In this type of AIHA, complement fractions like **C3b and C3d** can be detected in the RBC's surface, and some of them can be indicative of acute stages of the disease as **C3b and C4b**.
	Paroxysmal cold hemoglobinuria (PCH)[7]	It is also a cold type of AIHA caused by biphasic **IgG autoantibodies** that in a first phase, at low temperature, **promote the partial activation of the complement system (until C4 fixation),** but in a second phase, at higher temperature, usually detach from RBCs and the complement system finishes its activation. This is the less usual type of AIHA and different fractions of complement system, such as **C3 and C4**, could be detected on the RBC's surface.
	Mixed type AIHA[7]	It is one of the most severe forms of the disease and is mediated by **warm IgG** and **cold IgM antibodies** with **activation of complement system**.
Hemolytic disease of the fetus and neonate (HDFN)		Fetal or neonate RBCs are coated by maternal **IgG** antibodies against red cell antigens that are paternally inherited by the fetus, causing RBC destruction.
Hemolytic transfusion reactions (HTR)		**IgG** and **IgM** antibodies against the transfused RBCs and complement factors induce the immune response, causing the destruction of RBCs.

BIBLIOGRAPHY
1. DC Scan Plus Instructions For Use - 1.0
2. Segel GB, et al. Blood Cells Mol Dis. 2014;52(4):152-60
3. AABB Technical Manual 18th edition, 2014, 427
4. Kamesaki T, et al. Transfusion. 2022;62:205–16
5. Hill QA, et al. Br J Haematol. 2017;176:395-411
6. Berentsen S. Transfus Med Hemother. 2015;42:303-10
7. Gertz MA. Br J Haematol. 2007;138:422-9

DGgel

Technical characteristics

DG Gel DC Scan Plus permits the differentiation of red blood cells sensitized *in vivo* by IgG, IgA, and IgM type immunoglobulins and/or with the complement C3b, C3d, and C4b fractions.

Ready to use

PROFILE	AHG/IgG/IgA/IgM/C3c/C3d/C4/Ctl
COMPOSITION	**AHG:** Polyspecific anti-human globulin in a buffered Low Ionic Strength Solution (LISS). Mixture of rabbit polyclonal anti-IgG and murine monoclonal anti-C3d antibodies (IgM antibodies, clone 12011D10). **IgG:** Rabbit polyclonal anti-IgG in a buffered Low Ionic Strength Solution (LISS). **IgA:** Rabbit polyclonal anti-IgA heavy chain specific in a buffered Low Ionic Strength Solution (LISS). **IgM:** Rabbit polyclonal anti-IgM heavy chain specific in a buffered Low Ionic Strength Solution (LISS). **C3c:** Rabbit polyclonal anti-C3c in a buffered Low Ionic Strength Solution (LISS). This reagent may detect C3b fraction (C3c fraction + C3d fraction) coated on RBCs. **C3d:** Murine monoclonal anti-C3d (IgM antibodies, clone 12011D10) in a buffered Low Ionic Strength Solution (LISS). This reagent may detect C3b fraction (C3c fraction + C3d fraction) and C3d fraction coated on RBCs. **C4:** Rabbit polyclonal anti-C4c in a buffered Low Ionic Strength Solution (LISS). This reagent may detect C4b fraction (C4c fraction + C4d fraction) coated in RBCs. **Ctl.:** Buffered solution not containing antibodies (control microtube).
Nº OF DETERMINATIONS/ CARD	1

Presentation

REFERENCE	PACKAGING	STORAGE
210127	25 cards/box	2-8 ºC

Additional reagents required: DG Gel Sol (ref. 210354), universal solution for preparing red blood cell suspensions used in DG Gel techniques.

IVD product bearing CE mark certification under the IVDR.

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