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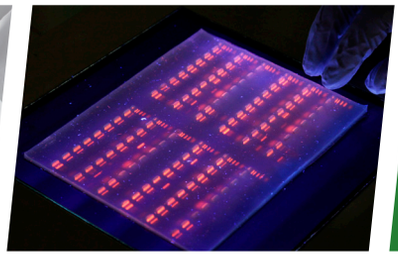

RBC-Ready Gene
THE SSP-PCR SYSTEM

CE certified blood group genotyping

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TECHNIQUE:

Red **B**lood **C**ell-**Ready Gene** is **inno-train's** product line for analysis of erythrocyte blood groups based on the SSP-PCR method. Therefore these diagnostic systems represent the ideal complement to serological blood group typing. The modular kit design offers an extensive choice for a gradual typing system depending on your problem.

The evaluation is performed by standard agarose gel electrophoresis. As an internal PCR control each tube contains primers for amplification of the Human Growth Hormone (HGH). If no specific product is present after PCR, the amplificate of this positive control must be clearly detectable.

ADVANTAGES OF THE RBC-Ready Gene SYSTEM:

- **high flexibility due to modular product concept**
- **easy and fast test performance**
- **safety with polytransfused patients**
- **clarification of questionable RHD/RHCE**
- **negative controls included**
- **coloured primer mixes for better visibility**
- **CE certified**

ABO GENOTYPING:

Patients with weak ABO expression or with a questionable pattern of their isoagglutinins can be retyped with **RBC-Ready Gene ABO / ABO Subtype** up to very weakly expressed antigens.

The flexible format of **RBC-Ready Gene** allows the performance of both kits in parallel, or only the subtype depending on your requirements.

GENOTYPING OF RARE BLOOD GROUPS:

In many cases antisera against rare blood groups are not available or difficult to obtain. Occasionally patients form antibodies which are difficult to identify and that can be directed against rare blood groups. **RBC-Ready Gene Rare ID** detects rare blood group alleles without a doubt and in an economical way.
In times of a globalized world the demand for blood units with rare blood group alleles is increasing. Our screening concepts **for rare blood group alleles** support you in finding the suitable blood unit. You have the choice: the **RBC-Ready Gene Rare Screen** system screens with only 1 reaction for 5 different blood group alleles. The **RBC-Ready Gene 4-Screen** searches in 4 reactions for 7 different rare blood group alleles in parallel with the confirmation of D positivity or D negativity.
Further identification of the detected rare allele after such a screening test can be completed with the **RBC-Ready Gene Rare ID** system.

GENOTYPING OF THE KELL, KIDD, DUFFY AND MNS SYSTEMS:

Different hemolytic diseases e.g. sickle cell anemia or thalassemia, but also complex courses of diseases following multiple operations due to accidents or chronic diseases require continuous blood transfusions. As a result the recipients have a mixture of blood that makes blood group detection difficult, especially of the blood groups Kell, Kidd, Duffy and MNS. If further transfusions are necessary molecular blood group detection gives clear results because the volume of donor DNA in the transfused blood units does not influence the test.

RBC-Ready Gene also gives you safety in typing patients who have generated allo- or autoantibodies and/or show a positive DAT in serological typing.

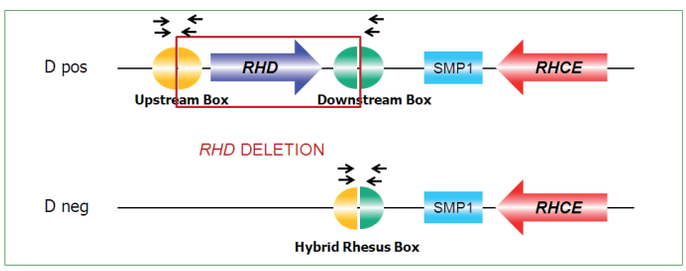
Beside the standard **RBC-Ready Gene MNS** and **RBC-Ready Gene KKD** test systems we offer the **RBC-Ready Gene KELplus** kit for detection of further Kell alleles, as well as the **RBC-Ready Gene JKplusFY** for detection of further Kidd alleles in combination with Duffy detection.

RHD GENOTYPING:

For clarification of serologically weak D typings in patients and donors **inno-train's** systems **RBC-Ready Gene CDE** and **RBC-ReadyGene D weak** can be used individually or in combination. Ambiguous samples are tested specifically for D categories, D partial and D weak and can therefore be clearly characterized.

Molecular retyping of samples that are serologically D negative with a C or E antigen show a D positivity (DEL, D weak, D variant) in rare cases.

The **RBC-Ready Gene ZygoFast** system is recommended as a „rapid test" for a first prediction of zygosity. With 4 reactions it can be analyzed whether the sample is "DD", "Dd" or "dd". The complete deletion of the RHD gene leads to the formation of the so called Hybridbox, which is detected by two different reactions for covering several polymorphisms. The amplification of two Upstream Box sequences confirms the presence of the RHD gene.



The **RBC-Ready Gene D AddOn** system detects additional RHD sequences and further D negative alleles, which are not caused by a deletion of the whole RHD gene, i.e. DELs, RHDpsi, d(C)es, D-CE(2-9)-D or W16X. The detection of these alleles represents important additional information for correct zygosity typing. All zygosities with known D negative alleles are detected safely by the combination of both systems.

FURTHER RHCE ANALYSIS: RBC-Ready Gene RHCE variants

With the **RBC-Ready Gene CDE** system a clear result of the RHCE alleles C, c, E, e and C^W is obtained. In the case of a clear molecular typing for RHCE together with a weak serological C, c, E or e reaction we recommend to use our latest test system **RBC-Ready Gene RHCE variants** for clarification.

It is also applicable for analyzing anomalous serological typings, e.g. unexpected RH antibodies. Furthermore it can be used for a targeted testing of donors/patients for altered RHCE variant expressions.

RBC-Ready Gene vERYfy: THE COMBINED SOLUTION INCL. VEL+/VEL-

NEW

Samples from polytransfused patients or from patients producing allo-/auto-antibodies mostly require a clear molecular clarification. The **RBC-Ready Gene vERYfy** system offers a combined solution for the parallel analysis of the blood group systems RHD, RHCE, MNS, Kell, Kidd, Duffy, Dombrock and Vel.

RBC-Ready Gene Vel-Screen

NEW

The Vel-blood group was first described in 1952, but until 2013 the molecular mechanism remained obscure. Homozygosity for a 17 nucleotide deletion in the third exon of the SMIM1 gene on chromosome 1p36 causes the rare Vel- phenotype.

For a fast and easy Vel-screening we offer the **RBC-Ready Gene Vel-Screen** system with only 2 reactions for Vel+ and Vel- genotyping.

RBC-Ready Gene TEST SYSTEMS:

ARTICLE NO.	ARTICLE	REACTIONS/ TEST	TESTS/ KIT
001 010 012	**RBC-Ready Gene ABO** A, A2, B, O1, O2	8	12
001 012 012	**RBC-Ready Gene ABO Subtype** Aw04, Aw11, Bw03, Ael02, Ax01, Ax04, B302, Bw19, O45, Aw08, O50, Aw07, Aw06, Bel03, O55, Bw20, A302, O14, Ael01, O08, O15, A301, Bx01, cis-AB01, B(A)01, B(A)03, Bel04, Aw13, Aw05, A205, Ax10, O23, A202, A203, B301	8	12
001 020 012	**RBC-Ready Gene CDE** D, d, DIIIa, DIIIb, DIIIc, DIII type 4-7, DIVa, DIVb, DIV type 3-5, DVa, DVa type 1-9, DBS-0,-1, DCS, DVI type 1-4, DVII, DNB, DAU-0,1,2,3,4, DHMi, DHMii, DBT type 1&2, DAR, DFR type 1&2, DHAR, D psi, D-CE(1-9)-D, D-CE(2-9)-D, D-CE(8-9)-D, D-CE(3-7)-D, D-CE(4-7)-D, d(C)es, RHCE: C, C^{W}, c, E, e	16	12
001 022 012*	**RBC-Ready Gene D weak** weak D type 1, 1.1, 2, 3, 4.0/ 4.1, 4.2 (DAR), 5, 11 (M295I), 14, 15, 17	8	12
001 061 012	**RBC-Ready Gene ZygoFast** RHD-zygosity detection: DD, Dd or dd.	4	12
001 062 012**	**RBC-Ready Gene D AddOn** DEL(M295I), DEL(K409K), DEL(IVS3+1G>A), RHDpsi, d(C)es, D-CE(2-9)-D, W16X	8	12
001 077 012	**RBC-Ready Gene RHCE variants** CeVA, CeFV, catEIII, ceAR, CeVG, ceEK, ce^{s}, (C)ce^{s}, Ce667T, ceMO, CeMA, ce340T, ce^{s}(340), ce^{s}(697), Ce341A, Ce-JAHK, ceSL, catEI, catEIV, ceRT, ce5'UTR-10C>T, CeIVS3-5G, Ce939A, Ce939C, RN, Cx	8	12
001 040 012	**RBC-Ready Gene KKD** KEL1(K), KEL2(k), JK1(Jk^{a}), JK2(Jk^{b}), FY1(Fy^{a}), FY2(Fy^{b}), FYnull(Fy^{a-}, Fy^{b-}), FYX(Fy^{bweak})	8	12
001 042 012	**RBC-Ready Gene KELplus** KEL1(K), KEL2(k), KEL3(Kp^{a}), KEL4(Kp^{b}), KEL6(Js^{a}), KEL7(Js^{b}), null alleles: KEL(IVS3+1G>A)null, KEL(Q348X)null, KEL(R128X)null	8	12
001 044 012	**RBC-Ready Gene JKplusFY** JK1(Jk^{a}), JK2(Jk^{b}), JK(IVS5-1G>A)null, JK(S291P)null, FY1(Fy^{a}), FY2(Fy^{b}), FYnull(Fy^{a-}, Fy^{b-}), FYX(Fy^{bweak})	8	12
001 050 012	**RBC-Ready Gene MNS** MNS1(M), MNS2(N), MNS3(S), MNS4(s), MNS9(Vw), MNS11(Mg), MNS10(Mur)	7	12
001 076 012	**RBC-Ready Gene vERYfy** RHD: exons 1, 5, 10, psi; RHCE: C, C^{W}, c, E, e; KEL1(K), KEL2(k), JK1(Jk^{a}), JK2(Jk^{b}), FY1(Fy^{a}), FY2(Fy^{b}), FYnull(Fy^{a-}, Fy^{b-}), FYX(Fy^{bweak}), MNS1(M), MNS2(N), MNS3(S), MNS4(s), DO1(Do^{a}), DO2(Do^{b}), Vel+ and Vel-. NEW	24	12
001 072 096	**RBC-Ready Gene Rare Screen** KEL3 (Kp^{a}), LU1(Lu^{a}), YT2(Yt^{b}), CO2(Co^{b}), KN2(Kn^{b})	1	96
001 075 024	**RBC-Ready Gene 4-Screen** RHD exons 1, 5 and 10, KEL3(Kp^{a}), LU1(Lu^{a}), DI1(Di^{a}), DI3(Wr^{a}), YT2(Yt^{b}), CO2(Co^{b}), KN2(Kn^{b})	4	24
001 070 012	**RBC- Ready Gene Rare ID** LU1(Lu^{a})/LU2(Lu^{b}), DI1(Di^{a})/DI2(Di^{b}), DI3(Wr^{a})/DI4(Wr^{b}), YT1(Yt^{a})/YT2(Yt^{b}), CO1 (Co^{a})/CO2(Co^{b}), KEL3(Kp^{a})/KEL4(Kp^{b}), DO1(Do^{a})/DO2(Do^{b}), KN1(Kn^{a})/KN2(Kn^{b})	16	12
001 078 032	**RBC-Ready Gene Vel-Screen** NEW Vel+ and Vel- screening.	2	32

* The purchase price of this product includes limited, non-transferable rights under European Patent EP 1 047 777 B1.
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