Hemo ID™ Blood Group Genotyping Panel

Markers Interrogated in the RHD-RHCE Broad Module (Part 1)

Traditional Phenotype	ISBT Phenotype and/or Traditional Phenotype	ISBT Genotype	Nucleotide change	Intron/Exon
Rhesus C/c and Rhesus C variant	RH:4 or RHc vs. RHCE*02 or RHD*01 or RHDC	*RHCE*01 or *03 vs. RHCE *02 or *04*	201A>G	2
	RH:4 or RHc vs. RHCE*02 or RHD*01 or RHDC	*RHCE*01 or *03 vs. RHCE *02 or *04*	307C>T	2
	RH:4 or c vs.RH:2 or C	*RHCE*01 or *03 vs. RHCE *02 or *04*	i2- (del) > T (109bp ins)	intron 2
	Partial C or RH:8 (CW+) or RH:–51(MAR–) or RHCw	*RHCE*02.08.01 or RHCE*Ce.08.01 or RHCE*CeCW*	122A>G	1
Rhesus E/e	RH:3 or RHE vs. RH:5 or RHe	*RHCE*01 or *02 vs. RHCE *03 or *04*	676C>G	5
	RH:3 or RHE vs. RH:5 or RHD*01 or RHDe	*RHCE*01 or *02 vs. RHCE *03 or *04*	676C>G	5
Rhesus D/d exon screening	RHCE vs. RHD promoter or D– vs. D or RH:1	*RHD*01N.01 vs. RHD*01*	p-132G>A	promoter
	RHCE vs. RHD intron 1 or D– vs. DD– vs. D or RH:1	*RHD*01N.01 vs. RHD*01*	i1+18C>A	intron 1
	RHCE vs. RHD exon 3 or D– vs. DD– vs. D or RH:1	*RHD*01N.01 vs. RHD*01*	455C>A	3
	RHCE vs. RHD exon 4 or D– vs. DD– vs. D or RH:1	*RHD*01N.01 vs. RHD*01*	514T>A	4
	RHCE vs. RHD exon 5 or D– vs. DD– vs. D or RH:1	*RHD*01N.01 vs. RHD*01*	787A>G	5
	RHCE vs. RHD exon 6 or 1. D– vs. DD– vs. D or RH:1 2. RHD weak type 66	*1. RHD*01N.01 vs. RHD*01* *2. RHD*01W.66*	916A>G	6
	RHCE vs. RHD exon7 or D– vs. D or RH:1	*RHD*01N.01 vs. RHD*01*	968A>C	7
	RHCE vs. RHD exon 7 or D– vs. DD– vs. D or RH:1	*RHD*01N.01 vs. RHD*01*	1048C>G	7
	RHCE vs. RHD intron 7 or D– vs. DD– vs. D or RH:1	*RHD*01N.01 vs. RHD*01*	i7-327A>G	intron 7
	RHCE vs. RHD exon 9 or D– vs. DD– vs. D or RH:1	*RHD*01N.01 vs. RHD*01*	1170C>T	9
	RHCE vs. RHD exon 9 or 1. D– vs. DD– vs. D or RH:1 2. RHD weak type 41	*1. RHD*01N.01 vs. RHD*01* *2. RHD*01W.41*	1193T>A	9
	RHCE vs. RHD exon 10 or D– vs. D or RH:1	*RHD*01N.01 vs. RHD*01*	1359T>A	10

Hemo ID™ Blood Group Genotyping Panel

Markers Interrogated in the RHD-RHCE Broad Module (Part 2)

Blood Group System	Traditional Phenotype	ISBT Phenotype and/or Traditional Phenotype	ISBT Genotype	Nucleotide change	Intron/Exon
Rhesus (004 RH)	D– hybrid	RHD*CE(1-9)-D	*RHD*01N.02 | CE exon 1- 9*	Each of the RHD/CE exon screening nucleotide polymorphisms listed below is interrogated in every RHD-RHCE hybrid listed on the left	
	D– hybrid	RHD*CE(2-9)-D or RHD*CE(3-9)-D	*RHD*01N.03 | CE exon 2- 9 or RHD*01N.04 | CE exon 3-9*		
	D– hybrid	RHD*CE(2-7)-D or RHD*CE(3-7)-D	*RHD*01N.05 | CE exon 2-7 or RHD*01N.06 | CE exon 3-7*		
	G+ hybrid	RHD*CE(4-7)-D	*RHD*01N.07 | CE exon 4-7*		
	CE exon 3	RHD*D-CE(3)-D	*RHD*03.03 | RHD*DIIIc @ RHCE*455C*		
	DVI type 4	RHD*D-CE(3-5)-D	*RHD*06.04 | RHD*DVI.4 @ RHCE*455C,514T,787A*	p-132G>A in promoter	
	DVI type 3	RHD*D-CE(3-6)-D	*RHD*06.03 | RHD*DVI.3 @ RHCE*455C,514T,787A,916A*		
	DFR	RHD*D-CE(4)-D	*RHD*17 | RHD*DFR @ RHCE*514T*	i1+18C>A in intron 1	
	DVI type 1	RHD*D-CE(4-5)-D	*RHD*06.01 | RHD*DVI.1 @ RHCE*514T,787A,916A*		
	DVI type 2	RHD*D-CE(4-6)-D	*RHD*06.02 | RHD*DVI.2 @ RHCE*514T,787A,916A*		
	DV type 2	RHD*D-CE(5)-D	*RHD*05.02| RHD*DV.2 @ RHCE*787A*	455C>A in exon 3	
	DBT	RHD*D-CE(5-9)-D	*RHD*14 | RHD* DBT @ RHCE*787,916,968,1048,i7-327, 1170,1192*	514T>A in exon 4	
	DV type 3	RHD*D-CE(6-9)-D	*RHD*04.03 | RHD* DIV.3 @ RHCE*916,968,1048, i7-327, 1170,1193*	787A>G in exon 5	
	DIV type 4	RHD*D-CE(7)-D	*RHD*04.04 | RHD*DIV.4 @ RHCE*1048*		
	DIV type 5	RHD*D-CE(7-9)-D	*RHD*04.05 | RHD*DIV.5 @ RHCE*968,1048,i7-327, 1170,1193*	916A>G in exon 6	
	RHD*DIVb	RHD*D-CE(1048C,8-9)-D	*RHD*04.06 | RHD* DIVb@RHCE*968,1048,i7-327,1170,1193*	968A>C in exon 7	
	hybrid D/CE(1) & D(2, 3) & CE(4-10) | partial E | E type II | RHCE*cEKK	RHCE*D(1-3)-CE	*RHCE*03.02 |RHCE*cE.02 | RHD exons(1-3)*	1048C>G in exon 7	
		RHCE*ce-D(4-9)-ce	*RHCE*01.29 | RHCE*ceBOL | RHD exon (4-9)@ 307C, 514,676G,787,916,968,1048, i7-327,1170,1193*	i7-327A>G in intron 7	
		RHCE*Ce-D(4)-ce	*RHCE*02.10.01 | RHCE*Ce.10.01 @ 307T,514A,676G*		
		RHCE*Ce-D(4)-ce + 455A	*RHCE*02.10.02 | RHCE*Ce.10.02 @ 307T,455A,514A,676G*	1170C>T in exon 9	
	Partial C	RHCE*CE-D(5)-CE	*RHCE*02.04 | RHCE*Ce.04 @ 307T,676C,787G*	1193T>A in exon 9	
		RHCE*ce-D(5)-ce	*RHCE*01.22 |RHCE*ce.22 @ 307C,676G,787G*		
	RH:8 (Cw+) Hybrid RHD exon 6-10	RHCE* Ce-D(6-10)	*RHCE*02.08.02 |RHCE*Ce.08.02 | RHD exon (6-10) @122G, 307C,676G,916,968,1048,i7-327,1170,1193.1359*	1359T>A in exon 10	

Hemo ID™ Blood Group Genotyping Panel

Markers Interrogated in the RHD-RHCE Broad Module (Part 3)

Traditional Phenotype	ISBT Phenotype and/or Traditional Phenotype	ISBT Genotype	Nucleotide change	Intron/Exon
more Rhesus Hybrids and other Rhesus Variants	Del or RHD(delA147)	*RHD*DEL4*	147A>G	1
	Del or RHD(IVS3+1G>A)el	*RHD*DEL8 or RHD*208*	IVS3+1G>A	2
	Del or D negative or RHD(IVS3+2T>A)null	*RHD*DEL9 or RHD*209*	IVS3+2T>A	2
	Del or RHD(X418L)el	*RHD*DEL11*	1253G>A	9
	D– or RHD(W16X)	*RHD*01N.08*	48G>A	1
	D– or RHD(Y401X)	*RHD*01N.22*	1203T>A	9
	D– or RHD psi, IVS3-19 dupl 37	*RHD*04N.01*	487A>T	4
	D– or RHDpsi	*RHD*04N.01*	654G>C	5
	D– C+ very weak or Dces, type 1 & 2 at RHDCE*1006T	*RHD*01N.06 var or RHD*CE(3–7)–D +1006T*	1006G>T	7
	D– C+ weak or RHD cat IIIsub or DCes type 1	*RHD*03N.01 or RHD*DIIIa–CE(3–7)–D*	186G>T	2
	1. D+ cat 2. D– C+ weak or RHD cat III type 4-8 or DCes type 1	*1. RHD*03.04-08* *2. RHD*03N.01 var*	410C>T	3
	DIII type 4 or RHD cat DIII type 4	*RHD*03.04 or RHD*DIII.4*	186G>T 410C>T 455C	2 3 3
	DIVa or RHD cat DIVa	*RHD*04.01 or RHD*DIVa.1*	186G>T 455C 1048C	2 3 7
	DIVa type 2 or RHD cat DIVa type 2	*RHD*04.02 or RHD*DIVa.2*	186G>T 410C>T 455C 1048C	2 3 3 7
	D– (CE) or RHD-CE(2-9)-D+203C	*RHD*01N.03 var or RHD-CE(2-9)-D+203C*	203G>C	2
	D– (CE) or RHD-CE(2-9)-D-2+268A	*RHD*01N.03 var or RHD-CE(2-9)-D-2+268A*	i2+268G>A	intron 2