

Names for *RHD* (ISBT 004)

Intro

General description: The Rh blood group system consists of 55 antigens carried on two proteins (RhD and RhCE) each consisting of 417 amino acids. Combinations (hybrids) between the two genes are not uncommon. The proteins consist of 12 membrane-spanning domains.

Gene name: *RHD*
Number of exons: 10
Initiation codon: Within exon 1
Stop codon: Within exon 10
Entrez Gene ID: 6007
LRG: LRG_796
LRG sequence: NG_007494.1 (genomic)
NM_016124.6 (transcript variant 1)

RHD (ISBT 004)

Reference allele: *RHD*01*

RHD (ISBT 004) Blood Group Partial D Alleles

RHD (ISBT 004) Blood Group Null Alleles

RHD (ISBT 004) Blood Group Weak D Alleles

RHD (ISBT 004) Blood Group DEL Alleles

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
D RH:1	<i>RHD*01</i>							
Normal D antigen	<i>RHD*01.01</i>	c.48G>C	1	p.Trp16Cys	PMID: 29296782	FR692355 KY617090	rs772865539	
partial D								
DII	<i>RHD*02</i> <i>RHD*DII</i>	c.1061C>A	7	p.Ala354Asp	PMID: 7518725 PMID: 9163603		rs756982993	
DIIIa RH:54 (DAK+)	<i>RHD*03.01</i> <i>RHD*DIIIa</i>	c.186G>T c.410C>T c.455A>C c.602C>G c.667T>G c.819G>A	2 3 3 4 5 6	p.Leu62Phe p.Ala137Val p.Asn152Thr p.Thr201Arg p.Phe223Val silent	PMID: 12070041 PMID: 20088832		rs199509194 rs113982491 rs17418085 rs1053355 rs1053356 rs150606530	Also reported as DIIIa type 5 (obsolete) Original DIIIa report missed 186G>T, 410C>T, and 819G>A
DIIIb Caucasian RH:54 (DAK+) RH:—12 (G—)	<i>RHD*03.02</i> <i>RHD*DIIIb</i>	c.150T>C c.178A>C c.201G>A c.203G>A c.307T>C	2 2 2 2 2	silent p.Ile60Leu silent p.Ser68Asn p.Ser103Pro	PMID: 7742554		rs1132758 rs1053341 rs41302032 rs62621068 rs1132760	
DIIIc	<i>RHD*03.03</i> <i>RHD*DIIIc</i>	c.361T>A c.380T>C c.383A>G c.455A>C	3 3 3 3	p.Leu121Met p.Val127Ala p.Asp128Gly p.Asn152Thr	PMID: 8669091	S82449	rs41267489 rs201703675 rs758618412 rs17418085	
DIII type 4	<i>RHD*03.04</i> <i>RHD*DIII.4</i>	c.186G>T c.410C>T c.455A>C	2 3 3	p.Leu62Phe p.Ala137Val p.Asn152Thr	PMID: 10753853		rs199509194 rs113982491 rs17418085	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Not tested	<i>RHD*03.04.02</i> <i>RHD*DII.04.02</i>	c.186G>T c.307T>C c.410C>T c.455A>C	2 2 3 3	p.Leu62Phe p.Ser103Pro p.Ala137Val p.Asn152Thr			rs199509194 rs1132760 rs113982491 rs17418085	In trans to DAR1
DIII type 6	<i>RHD*03.06</i> <i>RHD*DIII.6</i>	c.410C>T c.455A>C c.602C>G c.667T>G c.819G>A	3 3 4 5 6	p.Ala137Val p.Asn152Thr p.Thr201Arg p.Phe223Val silent	PMID: 16584437 PMID: 24579654		rs113982491 rs17418085 rs1053355 rs1053356 rs150606530	
DIII type 7 (likely the historically defined DIIIb)	<i>RHD*03.07</i> <i>RHD*DIII.07</i>	c.150T>C c.178A>C c.201G>A c.203G>A c.307T>C c.410C>T c.455A>C c.602C>G c.667T>G	2 2 2 2 2 3 3 4 5	silent p.Ile60Leu silent p.Ser68Asn p.Ser103Pro p.Ala137Val p.Asn152Thr p.Thr201Arg p.Phe223Val	PMID: 16584437 PMID: 21745213	JF436967	rs1132758 rs1053341 rs41302032 rs62621068 rs1132760 rs113982491 rs17418085 rs1053355 rs1053356	
DIII type 8	<i>RHD*03.08</i> <i>RHD*DIII.08</i>	c.410C>T c.455A>C	3 3	p.Ala137Val p.Asn152Thr		FR729896	rs113982491 rs17418085	
DIII type 9	<i>RHD*03.09</i> <i>RHD*DIII.09</i>	c.186G>T c.410C>T c.455A>C c.667T>G	2 3 3 5	p.Leu62Phe p.Ala137Val p.Asn152Thr p.Phe223Val			rs199509194 rs113982491 rs17418085 rs1053356	
DIVa RH30+ (Goa+)	<i>RHD*04.01</i> <i>RHD*DIVa</i>	c.186G>T c.410C>T c.455A>C c.1048G>C	2 3 3 7	p.Leu62Phe p.Ala137Val p.Asn152Thr p.Asp350His	PMID: 24579654 PMID: 23461862 PMID: 23867180 PMID: 19351380	HF549086	rs199509194 rs113982491 rs17418085 rs41307826	Often with <i>RHCE*ceTI</i>
DIVa type 2 obsolete								original DIVa report missed 410C>T change

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DIVa-like or DIVa type 3	<i>RHD*04.01.02</i>	c.186G>T c.410C>T c.455A>C c.667T>G c.1048G>C	2 3 3 5 7	p.Leu62Phe p.Ala137Val p.Asn152Thr p.Phe223Val p.Asp350His			rs199509194 rs113982491 rs17418085 rs1053356 rs41307826	Was found with <i>RHCE*ceTi</i>
DIV type 3	<i>RHD*04.03</i> <i>RHD* DIV.3</i>	c.916G>A c.932A>G c.941G>T c.968C>A c.974G>T c.979A>G c.985G>C c.986G>A c.989A>C c.992A>T c.1025T>C c.1048G>C c.1053C>T c.1057G>T c.1059A>G c.1060G>A c.1061C>A c.1063 G>T c.1170 T>C c.1193 A>T	6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 9 9	p.Val306Ile p.Tyr311Cys p.Gly314Val p.Pro323His p.Ser325Ile p.Ile327Val p.Gly329His p.Gly329His p.Tyr330Ser p.Asn331Ile p.Ile343Thr p.Asp350His silent p.Gly353Trp p.Gly353Trp p.Ala354Asn p.Ala354Asn silent silent p.Glu398Val	PMID: 9864185	HF549087	rs590813 rs590787 rs200762372 rs200415166 n.a. rs780001468 rs1643863219 rs1643863394rs 751746562 rs755177266 rs138235491 rs41307826 rs41300142 rs200307239 rs1468536305 rs753613761 rs756982993 rs146093871 rs1132772 rs45549244	
DIV type 4	<i>RHD*04.04</i> <i>RHD*DIV.4</i>	c.1048G>C c.1053C>T c.1057G>T c.1059A>G c.1060G>A c.1061C>A	7 7 7 7 9 9	p.Asp350His silent p.Gly353Trp p.Gly353Trp p.Ala354Asn p.Ala354Asn		HF549085	rs41307826 rs41300142 rs200307239 rs1468536305 rs753613761 rs756982993	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DIV type 5	<i>RHD*04.05</i> <i>RHD*DIV.5</i>	c.941G>T c.968C>A c.974G>T c.979A>G c.985G>C c.986G>A c.989A>C c.992A>T c.1025T>C c.1048G>C c.1053C>T c.1057G>T c.1059A>G c.1060G>A c.1061C>A c.1063G>T c.1170T>C c.1193A>T	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 9 9	p.Gly314Val p.Pro323His p.Ser325Ile p.Ile327Val p.Gly329His p.Gly329His p.Tyr330Ser p.Asn331Ile p.Ile342Thr p.Asp350His silent p.Gly353Trp p.Gly353Trp p.Ala354Asn p.Ala354Asn silent silent p.Glu398Val	PMID: 11054051	AB037270	rs200762372 rs200415166 rs780001468 rs751746562 rs1643863219 rs1643863394 rs755177266 rs138235491 rs138235491 rs41307826 rs41300142 rs200307239 rs1468536305 rs753613761 rs756982993 rs751746562 rs1132772 rs45549244	
DIVb	<i>RHD*04.06</i> <i>RHD* DIVb</i>	c.1048G>C c.1053C>T c.1057G>T c.1059A>G c.1060G>A c.1061C>A c.1170T>C c.1193A>T	7 7 7 7 7 7 9 9	p.Asp350His silent p.Gly353Trp p.Gly353Trp p.Ala354Asn p.Ala354Asn silent p.Glu398Val	PMID: 7742554		rs41307826 rs41300142 rs200307239 rs1468536305 rs753613761 rs756982993 rs1132772 rs45549244	
DV type 1	<i>RHD*05.01</i> <i>RHD*DV.1</i>	c.667T>G c.697G>C	5 5	p.Phe223Val p.Glu233Gln	PMID: 7742554		rs1053356 rs1053359	Kou FK

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DV type 2	<i>RHD*05.02</i> <i>RHD*DV.2</i>	c.667T>G c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T	5 5 5 5 5 5 5	p.Phe223Val p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met	PMID: 7742554		rs1053356 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722	Hus
DV type 3	<i>RHD*05.03</i> <i>RHD*DV.3</i>	c.667T>G c.676G>C c.697G>C c.712G>A	5 5 5 5	p.Phe223Val p.Ala226Pro p.Glu233Gln p.Val238Met	PMID: 9018818		rs1053356 rs1053359 rs1053360 rs150073306	Also known as DBS0
DV Type 4 RH:23 (Dw+)	<i>RHD*05.04</i> <i>RHD*DV.4</i>	c.697G>C	5	p.Glu233Gln	PMID: 9920819	AB012769	rs1053359	SM
DV type 5 RH:-23 (Dw-)	<i>RHD*05.05</i> <i>RHD*DV.5</i>	c.697G>A	5	p.Glu233Lys	PMID: 9920819	AB012659	rs1053359	DHK, DYO
DV type 6	<i>RHD*05.06</i> <i>RHD*DV.6</i>	c.667T>G c.697G>C c.712G>A	5 5 5	p.Phe223Val p.Glu233Gln p.Val238Met	PMID: 9920819	AB012658	rs1053356 rs1053359 rs1053360	Jpn
DV type 7	<i>RHD*05.07</i> <i>RHD*DV.7</i>	c.667T>G c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A	5 5 5 5 5 5	p.Phe223Val p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg	PMID: 11161244	AJ276017	rs1053356 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454	DAL
DV type 8	<i>RHD*05.08</i> <i>RHD*DV.8</i>	c.667T>G c.697G>C c.712G>A c.733G>C c.744C>T	5 5 5 5 5	p.Phe223Val p.Glu233Gln p.Val238Met p.Val245Leu silent	PMID: 9920819	AB012660	rs1053356 rs1053359 rs1053360 rs150073306 rs1053362	TT

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DV type 9	<i>RHD*05.09</i> <i>RHD*DV.9</i>	c.697G>C c.712G>A	5 5	p.Glu233Gln p.Val238Met	PMID: 10765149	AB018967	rs1053359 rs1053360	TO
DV type 10	<i>RHD*05.10</i> <i>RHD*DV.10</i>	c.667T>G c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T c.916G>A c.932A>G	5 5 5 5 5 5 5 6 6	p.Phe223Val p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met p.Val306Ile p.Tyr311Cys			rs1053356 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722 rs590813 rs590787	
DVI type 1 RH:—52 (BARC—)	<i>RHD*06.01</i> <i>RHD*DVI.1</i>	c.505A>C c.509T>G c.514A>T c.544T>A c.577G>A c.594A>T c.602C>G c.667T>G c.676G>C c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T	4 4 4 4 4 4 4 5 5 5 5 5 5 5 5	p.Met169Leu p.Met170Arg p.Ile172Phe p.Ser182Thr p.Glu193Lys p.Lys198Asn p.Thr201Arg p.Phe223Val p.Ala226Pro p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met	PMID: 9057663		rs17421137 rs17421144 rs17421151 rs17421158 rs1053352 rs569974439 rs1053355 rs1053356 rs3193872 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722	linked to <i>RHCE*cE</i>

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DVI type 2 RH:52 (BARC+)	<i>RHD*06.02</i> <i>RHD*DVI.2</i>	c.505A>C c.509T>G c.514A>T c.544T>A c.577G>A c.594A>T c.602C>G c.667T>G c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T c.916G>A c.932A>G	4 4 4 4 4 4 4 5 5 5 5 5 5 5 6 6	p.Met169Leu p.Met170Arg p.Ile172Phe p.Ser182Thr p.Glu193Lys p.Lys198Asn p.Thr201Arg p.Phe223Val p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met p.Val306Ile p.Tyr311Cys	PMID: 8111052		rs17421137 rs17421144 rs17421151 rs17421158 rs1053352 rs569974439 rs1053355 rs1053356 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722 rs590813 rs590787	linked to <i>RHCE*cE</i>

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DVI type 3 RH:52 BARC+	<i>RHD*06.03.01</i> <i>RHD*DVI.3</i>	c.361T>A c.380T>C c.383A>G c.455A>C c.505A>C c.509T>G c.514A>T c.544T>A c.577G>A c.594A>T c.602C>G c.667T>G c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T c.916G>A c.932A>G	3 3 3 3 4 4 4 4 4 4 4 5 5 5 5 5 5 5 5 6 6	p.Leu121Met p.Val127Ala p.Asp128Gly p.Asn152Thr p.Met169Leu p.Met170Arg p.Ile172Phe p.Ser182Thr p.Glu193Lys p.Lys198Asn p.Thr201Arg p.Phe223Val p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met p.Val306Ile p.Tyr311Cys	PMID: 9490704	Z97026	rs41267489 rs201703675 rs758618412 rs17418085 rs17421137 rs17421144 rs17421151 rs17421158 rs1053352 rs569974439 rs1053355 rs1053356 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722 rs590813 rs590787	linked to <i>RHCE*Ce</i>

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DVI type 3.2 BARC not tested	<i>RHD*06.03.02</i> <i>RHD*DVI.03.02</i>	c.361T>A c.380T>C c.383A>G c.455A>C c.505A>C c.509T>G c.514A>T c.544T>A c.577G>A c.594A>T c.602C>G c.667T>G c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T c.916G>A c.932A>G c.1195G>A	3 3 3 3 4 4 4 4 4 4 4 5 5 5 5 5 5 5 5 6 6 9	p.Leu121Met p.Val127Ala p.Asp128Gly p.Asn152Thr p.Met169Leu p.Met170Arg p.Ile172Phe p.Ser182Thr p.Glu193Lys p.Lys198Asn p.Thr201Arg p.Phe223Val p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met p.Val306Ile p.Tyr311Cys p.Ala399Thr			rs41267489 rs201703675 rs758618412 rs17418085 rs17421137 rs17421144 rs17421151 rs17421158 rs1053352 rs569974439 rs1053355 rs1053356 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722 rs590813 rs590787 rs150059028	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DVI type 4 RH:52 (BARC+)	<i>RHD*06.04</i> <i>RHD*DVI.4</i>	c.361T>A c.380T>C c.383A>G c.455A>C c.505A>C c.509T>G c.514A>T c.544T>A c.577G>A c.594A>T c.602C>G c.667T>G c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T	3 3 3 3 4 4 4 4 4 4 4 5 5 5 5 5 5 5 5	p.Leu121Met p.Val127Ala p.Asp128Gly p.Asn152Thr p.Met169Leu p.Met170Arg p.Ile172Phe p.Ser182Thr p.Glu193Lys p.Lys198Asn p.Thr201Arg p.Phe223Val p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met	PMID: 16584438	AF312679	rs41267489 rs201703675 rs758618412 rs17418085 rs17421137 rs17421144 rs17421151 rs17421158 rs1053352 rs569974439 rs1053355 rs1053356 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722	linked to <i>RHCE*cE</i>
DVII RH:40 (Tar+)	<i>RHD*07.01</i> <i>RHD*DVII.1</i>	c.329T>C	2	p.Leu110Pro	PMID: 7741145		rs121912762	
DVII type 2	<i>RHD*07.02</i> <i>RHD*DVII.2</i>	c.307T>C c.329T>C	2 2	p.Ser103Pro p.Leu110Pro	PMID: 11552071		rs1132760 rs121912762	
DFV	<i>RHD*08.01</i> <i>RHD*DFV</i>	c.667T>G	5	p.Phe223Val	PMID: 12393640	AF510069	rs1053356	
	<i>RHD*08N.01</i> <i>RHD*Pseudogene</i>	c.-7061del exon 1 to 10 c.609G>A c.654G>C c.667T>G c.674C>T c.807T>G	0 4 5 5 5 6	p.Met218Ile p.Phe223Val p.Ser225Phe p.Tyr269Ter	PMID: 10607679		n.a. rs141540728 rs1053356 rs148014996 rs141833592	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DAR(T203A)	<i>RHD*09.01</i> <i>RHD*DAR</i>	c.602C>G c.607A>G c.667T>G c.744C>T c.957G>A c.1025T>C	4 4 5 5 7 7	p.Thr201Arg p.Thr203Ala p.Phe223Val silent silent p.Ile342Thr	PMID: 22320258	HE613974	rs1053355 n.a. rs1053356 rs1053362 rs146292192 rs138235491	
DAR1 (weak D 4.2)	<i>RHD*09.01.00</i> <i>RHD*DAR1.00</i>	c.602C>G c.667T>G c.1025T>C	4 5 7	p.Thr201Arg p.Phe223Val p.Ile342Thr	PMID: 10590079		rs1053355 rs1053356 rs138235491	
DAR1.1 (weak D 4.2.1)	<i>RHD*09.01.01</i> <i>RHD*DAR1.01</i> <i>RHD*weak 4.2</i>	c.602C>G c.667T>G c.957G>A c.1025T>C	4 5 7 7	p.Thr201Arg p.Phe223Val silent p.Ile342Thr	PMID: 10753853		rs1053355 rs1053356 rs146292192 rs138235491	
DAR1.2 (weak D 4.2.2)	<i>RHD*09.01.02</i>	c.602C>G c.667T>G c.744C>T c.957G>A c.1025T>C	4 5 5 7 7	p.Thr201Arg p.Phe223Val silent silent p.Ile342Thr	PMID: 10753853		rs1053355 rs1053356 rs1053362 rs146292192 rs138235491	
DAR1.3 (weak D 4.2.3)	<i>RHD*09.01.03</i> <i>RHD*DAR1.03</i>	c.602C>G c.667T>G c.744C>T c.1025T>C	4 5 5 7	p.Thr201Arg p.Phe223Val silent p.Ile342Thr		AM930980	rs1053355 rs1053356 rs1053362 rs138235491	
DAR2 (DARE)	<i>RHD*09.02</i> <i>RHD*DAR2</i> <i>RHD*09.02.00</i>	c.602C>G c.667T>G c.697G>C c.957G>A c.1025T>C	4 5 5 7 7	p.Thr201Arg p.Phe223Val p.Glu233Gln silent p.Ile342Thr	PMID: 16584437		rs1053355 rs1053356 rs1053359 rs146292192 rs138235491	Reported as DAR-E

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DAR2.1	<i>RHD*09.02.01</i> <i>RHD*DAR2.01</i>	c.602C>G c.667T>G c.697G>C c.744C>T c.957G>A c.1025T>C	4 5 5 5 7 7	p.Thr201Arg p.Phe223Val p.Glu233Gln silent silent p.Ile342Thr			rs1053355 rs1053356 rs1053359 rs1053362 rs146292192 rs138235491	
DAR3 (weak partial D 4.0.1)	<i>RHD*09.03</i> <i>RHD*DAR3</i>	c.602C>G c.667T>G	4 5	p.Thr201Arg p.Phe223Val			rs1053355 rs1053356	
DAR3.1 (weak partial D 4.0)	<i>RHD*09.03.01</i> <i>RHD*DAR3</i>	c.602C>G c.667T>G c.819G>A	4 5 6	p.Thr201Arg p.Phe223Val silent	PMID: 9864185		rs1053355 rs1053356 rs150606530	
DAR4 (weak D 4.1)	<i>RHD*09.04</i> <i>RHD*DAR4</i>	c.48G>C c.602C>G c.667T>G c.819G>A	1 4 5 6	p.Trp16Cys p.Thr201Arg p.Phe223Val silent	PMID: 10753853		rs772865539 rs1053355 rs1053356 rs150606530	
DAR5 (weak D 4.3 or Del)	<i>RHD*09.05</i> <i>RHD*DAR5</i>	c.602C>G c.667T>G c.819G>A c.872C>G	4 5 6 6	p.Thr201Arg p.Phe223Val silent p.Pro291Arg			rs1053355 rs1053356 rs150606530 rs778406196	
DAR6 Or DAR(CE2:V50V- S68N)	<i>RHD*09.06</i> <i>RHD*DAR6</i> <i>RHD*DAR(SE2:v50 V-S68N)</i>	c.150T>C c.178A>C c.201G>A c.203G>A c.602C>G c.667T>G c.957G>A c.1025T>C	2 2 2 4 5 7 7 7	silent p.Ile60Leu silent p.Ser68Asn p.Thr201Arg p.Phe223Val silent p.Ile342Thr		HG423860	rs1132758 rs1053341 rs41302032 rs62621068 rs1053355 rs1053356 rs138235491 rs138235491	
DAU0	<i>RHD*10.00</i> <i>RHD*DAU0</i>	c.1136C>T	8	p.Thr379Met	PMID: 12070041		rs61740966	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DAU0.01	<i>RHD*10.00.01</i> <i>RHD*DAU0.01</i>	c.579G>A c.1136C>T	4 8	silent p.Thr379Met	PMID: 14505497		rs77813628 rs61740966	
DAU0.02	<i>RHD*10.00.02</i> <i>RHD*DAU0.02</i>	c.150T>C c.1136C>T	2 8	silent p.Thr379Met			rs1132758 rs61740966	
DAU1	<i>RHD*10.01</i> <i>RHD*DAU1</i>	c.689G>T c.1136C>T	5 8	p.Ser230Ile p.Thr379Met	PMID: 12070041		rs374920252 rs61740966	
DAU2	<i>RHD*10.02</i> <i>RHD*DAU2</i>	c.209G>A c.998G>A c.1136C>T	2 7 8	p.Arg70Gln p.Ser333Asn p.Thr379Met	PMID: 12070041		rs142925159 rs144996388 rs61740966	
DAU3	<i>RHD*10.03</i> <i>RHD*DAU3</i>	c.835G>A c.1136C>T	6 8	p.Val279Met p.Thr379Met	PMID: 12070041		rs139704879 rs61740966	
DAU4	<i>RHD*10.04</i> <i>RHD*DAU4</i>	c.697G>A c.1136C>T	5 8	p.Glu233Lys p.Thr379Met	PMID: 12070041		rs1053359 rs61740966	
DAU5	<i>RHD*10.05</i> <i>RHD*DAU5</i>	c.667T>G c.697G>C c.1136C>T	5 5 8	p.Phe223Val p.Glu233Gln p.Thr379Met	PMID: 15987365		rs1053356 rs1053359 rs61740966	
DAU5.1	<i>RHD*10.05.01</i> <i>RHD*DAU5.01</i>	c.667T>G c.697G>C c.1122C>T c.1136C>T	5 5 8 8	p.Phe223Val p.Glu233Gln silent p.Thr379Met	PMID: 27480171	HG918112	rs1053356 rs1053359 n.a. rs61740966	
DAU6	<i>RHD*10.06</i> <i>RHD*DAU6</i>	c.998G>A c.1136C>T	7 8	p.Ser333Asn p.Thr379Met	PMID: 16181204		rs144996388 rs61740966	
DAU7	<i>RHD*10.07</i> <i>RHD*DAU7</i>	c.835G>A c.998G>A c.1136C>T	6 7 8	p.Val279Met p.Ser333Asn p.Thr379Met	PMID: 19351380		rs139704879 rs144996388 rs61740966	
DAU8	<i>RHD*10.08</i> <i>RHD*DAU8</i>	c.340C>T c.579G>A c.1136C>T	3 4 8	p.Arg114Trp silent p.Thr379Met	PMID: 21950494		rs1170303671 rs77813628 rs61740966	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DAU9	<i>RHD*10.09</i> <i>RHD*DAU9</i>	c.535T>C c.1136C>T	4 8	p.Phe179Leu p.Thr379Met	PMID: 21950494		n.a. rs61740966	
DAU10	<i>RHD*10.10</i> <i>RHD*DAU10</i>	c.579G>A c.739G>C c.1136C>T	4 5 8	silent p.Val247Leu p.Thr379Met	PMID: 21950494		rs77813628 n.a. rs61740966	
DAU11	<i>RHD*10.11</i> <i>RHD*DAU11</i>	c.254C>T c.835G>A c.1136C>T	2 6 8	p.Ala85Val p.Val279Met p.Thr379Met	PMID: 27480171	HE965768	rs139501061 rs139704879 rs61740966	
DAU12	<i>RHD*10.12</i> <i>RHD*DAU12</i>	c.542T>C c.1136C>T	4 8	p.Leu181Pro p.Thr379Met		JX193761	rs149700508 rs61740966	
DAU13	<i>RHD*10.13</i> <i>RHD*DAU13</i>	c.48G>C c.1136C>T	1 8	p.Trp16Cys p.Thr379Met		HG423861	rs772865539 rs61740966	
DAU14	<i>RHD*10.14</i> <i>RHD*DAU14</i>	c.201G>A c.203G>A c.1136C>T	2 2 8	silent p.Ser68Asn p.Thr379Met	PMID: 25179760	KF861938	rs41302032 rs62621068 rs61740966	
RHD(M1V,T379M) Or DAU15	<i>RHD*10.15</i> <i>RHD*DAU15</i> Or <i>RHD10.15</i>	c.1A>G c.1136C>T	1 8	p.Met1Val p.Thr379Met			n.a. rs61740966	
weak partial 11 or Del	<i>RHD*11</i> <i>RHD*weak partial 11</i>	c.885G>T	6	p.Met295Ile	PMID: 9864185 PMID: 11495631		rs371803235	allo-anti-D reported Del phenotype when with <i>RHCE*Ce</i>
DOL1 RH:54(DAK+)	<i>RHD*12.01</i> <i>RHD*DOL1</i>	c.509T>C c.667T>G	4 5	p.Met170Thr p.Phe223Val	PMID: 19309476	FM201788	rs17421144 rs1053356	
DOL2 RH:54(DAK+)	<i>RHD*12.02</i> <i>RHD*DOL2</i>	c.509T>C c.667T>G c.1132C>G	4 5 8	p.Met170Thr p.Phe223Val p.Leu378Val	PMID: 19309476	AM072761	rs17421144 rs1053356 rs1204257183	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DOL3	<i>RHD*12.03</i> <i>RHD*DOL3</i>	c.410C>T c.509T>C c.667T>G	3 4 5	p.Ala137Val p.Met170Thr p.Phe223Val		AM087651	rs113982491 rs17421144 rs1053356	
DOL4	<i>RHD*12.04</i> <i>RHD*DOL4</i>	c.410C>T c.455A>C c.509T>C c.667T>G	3 3 4 5	p.Ala137Val p.Asn152Thr p.Met170Thr p.Phe223Val			rs113982491 rs17418085 rs17421144 rs1053356	
DBS1	<i>RHD*13.01</i> <i>RHD*DBS1</i>	c.667T>G c.676G>C c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T	5 5 5 5 5 5 5 5	p.Phe223Val p.Ala226Pro p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met	PMID: 11493738	AB046420	rs1053356 rs3193872 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722	
DBS2	<i>RHD*13.02</i> <i>RHD*DBS2</i>	c.667T>G c.676G>C c.697G>C	5 5 5	p.Phe223Val p.Ala226Pro p.Glu233Gln	PMID: 21790636	EU335052	rs1053356 rs3193872 rs1053359	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DBT1	<i>RHD*14.01</i> <i>RHD*DBT1</i>	c.667T>G c.697G>C c.712 G>A c.733G>C c.744C>T c.787G>A c.800A>T c.916G>A c.932A>G c.941G>T c.968C>A c.974G>T c.979A>G c.985 G>C c.986 G>A c.989 A>C c.992 A>T c.1025T>C c.1048G>C c.1053C>T c.1057G>T c.1059A>G c.1060G>A c.1061C>A	5 5 5 5 5 5 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	p.Phe223Val p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met p.Val306Ile p.Tyr311Cys p.Gly314Val p.Pro323His p.Ser325Ile p.Ile327Val p.Gly329His p.Gly329His p.Tyr330Ser p.Asn331Ile p.Ile342Thr p.Asp350His silent p.Gly353Trp p.Gly353Trp p.Ala354Asn p.Ala354Asn	PMID: 8652401		rs1053356 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722 rs590813 rs590787 rs200762372 rs200415166 rs377051051 rs780001468 rs1643863219 rs1643863394 rs751746562 rs755177266 rs138235491 rs41307826 rs41300142 rs200307239 rs1468536305 rs753613761 rs756982993	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DBT2	<i>RHD*14.02</i> <i>RHD*DBT2</i>	c.667T>G c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T c.916G>A c.932A>G c.941G>T c.968C>A c.974G>T c.979A>G c.985G>C c.986G>A c.989A>C c.992A>T	5 5 5 5 5 5 5 6 6 7 7 7 7 7 7 7 7 7	p.Phe223Val p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met p.Val306Ile p.Tyr311Cys p.Gly314Val p.Pro323His p.Ser325Ile p.Ile327Val p.Gly329His p.Gly329His p.Tyr330Ser p.Asn331Ile	PMID: 10604255		rs1053356 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722 rs590813 rs590787 rs200762372 rs200415166 rs377051051 rs780001468 rs1643863219 rs1643863394 rs751746562 rs755177266	
		c.1025T>C c.1048G>C c.1053C>T c.1057G>T c.1059A>G c.1060G>A c.1061C>A c.1170T>C c.1193 A>T	7 7 7 7 7 7 7 9 9	p.Ile342Thr p.Asp350His silent p.Gly353Trp p.Gly353Trp p.Ala354Asn p.Ala354Asn silent p.Glu398Val			rs138235491 rs41307826 rs41300142 rs200307239 rs1468536305 rs753613761 rs756982993 rs1132772 rs45549244	
Weak partial Type 15	<i>RHD*15</i> <i>RHD*weak partial 15</i>	c.845G>A	6	p.Gly282Asp	PMID: 9864185		rs142484009	allo anti-D reported
DCS1	<i>RHD*16.01</i> <i>RHD*DCS1</i>	c.667T>G c.676G>C	5 5	p.Phe223Val p.Ala226Pro	PMID: 17900276	AJ131502	rs1053356 rs3193872	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DCS2	<i>RHD*16.02</i> <i>RHD*DCS2</i>	c.676G>C	5	p.Ala226Pro	PMID: 17900276	AM694189	rs3193872	
DCS-3	<i>RHD*16.03</i> <i>RHD*DCS3</i>	c.667T>G c.676G>C c.697G>C	5 5 5	p.Phe223Val p.Ala226Pro p.Glu233Gln			rs1053356 rs3193872 rs1053359	<i>linked to RHCE*cE</i>
DFR1	<i>RHD*17.01</i> <i>RHD*DFR1</i>	c.505A>C c.509T>G c.514A>T	4 4 4	p.Met169Leu p.Met170Arg p.Ile172Phe	PMID: 7742554	AM491132	rs17421137 rs17421144 rs17421151	
DFR2	<i>RHD*17.02</i> <i>RHD*DFR2</i>	c.505A>C c.509T>G c.514A>T c.544T>A c.577G>A c.594A>T c.602C>G	4 4 4 4 4 4 4	p.Met169Leu p.Met170Arg p.Ile172Phe p.Ser182Thr p.Glu193Lys p.Lys198Asn p.Thr201Arg		AM491130	rs17421137 rs17421144 rs17421151 rs17421158 rs1053352 rs569974439 rs1053355	
DFR3	<i>RHD*17.03</i> <i>RHD*DFR3</i>	c.505A>C c.509T>G c.514A>T c.539G>C	4 4 4 4	p.Met169Leu p.Met170Arg p.Ile172Phe p.Gly180Ala	PMID: 17655603	AM491131	rs17421137 rs17421144 rs17421151 rs1210081817	
DFR4	<i>RHD*17.04</i> <i>RHD*DFR4</i>	c.505A>C c.509T>G	4 4	p.Met169Leu p.Met170Arg	PMID: 21790636	EU604753	rs17421137 rs17421144	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DFR5	<i>RHD*17.05</i> <i>RHD*DFR5</i>	c.361T>A c.380T>C c.383A>G c.455A>C c.505A>C c.509T>G c.514A>T c.544T>A c.577G>A c.594A>T c.602C>G	3 3 3 3 4 4 4 4 4 4 4	p.Leu121Met p.Val127Ala p.Asp128Gly p.Asn152Thr p.Met169Leu p.Met170Arg p.Ile172Phe p.Ser182Thr p.Glu193Lys p.Lys198Asn p.Thr201Arg		AM902714	rs41267489 rs201703675 rs758618412 rs17418085 rs17421137 rs17421144 rs17421151 rs17421158 rs1053352 rs569974439 rs1053355	
DFW	<i>RHD*18</i> <i>RHD*DFW</i>	c.497A>C	4	p.His166Pro	PMID: 19309476		rs776018445	
DHMi	<i>RHD*19</i> <i>RHD*DHMi</i>	c.848C>T	6	p.Thr283Ile			rs766015647	
DHO	<i>RHD*20</i> <i>RHD*DHO</i>	c.704A>C	5	p.Lys235Thr	PMID: 11161244	AJ276016	n.a.	
Weak partial Type 21	<i>RHD*21</i> <i>RHD*weak partial D</i> <i>21</i>	c.938C>T	6	p.Pro313Leu	PMID: 11161244	AJ276015	rs200137267	allo-anti-D reported
DHR	<i>RHD*22</i> <i>RHD*DHR</i>	c.686G>A	5	p.Arg229Lys	PMID: 9407643		n.a.	
DMH	<i>RHD*23</i> <i>RHD*DMH</i>	c.161T>C	2	p.Leu54Pro			rs1397052040	
DNAK	<i>RHD*24</i> <i>RHD*DNAK</i>	c.1070G>A	7	p.Gly357Asp			rs371135217	
DNB	<i>RHD*25</i> <i>RHD*DNB</i>	c.1063G>A	7	p.Gly355Ser	PMID: 12200394	AJ417868	rs146093871	
DNU	<i>RHD*26</i> <i>RHD*DNU</i>	c.1057G>A	7	p.Gly353Arg	PMID: 9163603		rs200307239	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DDE	<i>RHD*27</i> <i>RHD*DDE</i>	c.120T>A	1	p.Asp40Glu		AM177313	rs1376627972	
DFL	<i>RHD*28</i> <i>RHD*DFL</i>	c.494A>G	4	p.Tyr165Cys	PMID: 17465951	AM072758	rs768146074	
DYU	<i>RHD*29</i> <i>RHD*DYU</i>	c.700A>T	5	p.Arg234Trp	PMID: 15987365	AJ557827		
(DQC)	<i>RHD*30</i> <i>RHD*DTO</i>	c.667T>G c.674C>T	5 5	p.Phe223Val p.Ser225Phe	PMID: 16181204		rs1053356 rs148014996	
(DQC)	<i>RHD*31</i> <i>RHD*DV1</i>	c.684delGAG	5	p.Arg229del	PMID: 17176329	AJ784312		
DV1	<i>RHD*32</i> <i>RHD*DV1</i>	c.705delGAA	5	p.Lys235del	PMID: 17176329	AM235214		
DWI (DWLLE)	<i>RHD*33</i> <i>RHD*DWI</i>	c.1073T>C	7	p.Met358Thr	PMID: 15043574	AY170011		
DIM (DlleM)	<i>RHD*34</i> <i>RHD*DIM</i>	c.854G>A	6	p.Cys285Tyr	PMID: 10753853		n.a.	
DMA	<i>RHD*35</i> <i>RHD*DMA</i>	c.621G>C	4	p.Leu207Phe	PMID: 14505497		rs141287614	
DLO	<i>RHD*36</i> <i>RHD*DLO</i>	c.851C>T	6	p.Ser284Leu	PMID: 15318849	AJ585040	rs1242213324	
DUC2	<i>RHD*37</i> <i>RHD*DUC2</i>	c.733G>C	5	p.Val245Leu	PMID: 15987365	AY864888	rs150073306	
RHD*DNT	<i>RHD*38</i> <i>RHD*DNT</i>	c.455A>C	3	p.Asn152Thr			rs17418085	
RHD(S103P) RH:—12 (G—)	<i>RHD*39</i>	c.307T>C	2	p.Ser103Pro	PMID: 8669081		rs1132760	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
D-SPM	<i>RHD*40</i> <i>RHD*D-SPM</i>	c.186G>T c.410C>T c.455A>C c.509T>C c.667T>G	2 3 3 4 5	p.Leu62Phe p.Ala137Val p.Asn152Thr p.Met170Thr p.Phe223Val		JX193763	rs199509194 rs113982491 rs17418085 rs17421144 rs1053356	
	<i>RHD*41</i> <i>RHD*DBU</i> <i>RHD*01EL.23</i> <i>RHD*DEL23</i>	c.667T>G c.676G>C c.697G>C c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T c.916G>A c.932A>G c.941G>T c.968C>A c.974G>T c.979A>G c.985G>C c.986G>A c.989A>C c.992A>T c.1025T>C c.1048G>C c.1053C>T c.1057G>T c.1059A>G c.1060G>A c.1061C>A	5 5 5 5 5 5 5 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	p.Phe223Val p.Ala226Pro p.Glu233Gln p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met p.Val306Ile p.Tyr311Cys p.Gly314Val p.Pro323His p.Ser325Ile p.Ile327Val p.Gly329His p.Gly329His p.Tyr330Ser p.Asn331Ile p.Ile342Thr p.Asp350His silent p.Gly353Trp p.gly353Trp p.Ala354Asn p.Ala354Asn	PMID: 19243542	AM945964	rs1053356 rs3193872 rs1053359 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722 rs590813 rs590787 rs200762372 rs200415166 rs377051051 rs780001468 rs1643863219 rs1643863394 rs751746562 rs755177266 rs138235491 rs41307826 rs41300142 rs200307239 rs1468536305 rs753613761 rs756982993	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
	<i>RHD*42</i> <i>RHD*DCC</i>	c.677C>A	6	p.Ala226Asp	PMID: 21790636	EF105444	n.a.	
DDN	<i>RHD*43</i> <i>RHD*DDN</i>	c.490G>A	4	p.Asp164Asn		FM212439	n.a.	
DHQ	<i>RHD*44</i> <i>RHD*DHQ</i>	c.513C>A	4	p.His171Gln		AJ784309	n.a.	
DKK	<i>RHD*45</i> <i>RHD*DKK</i>	c.150T>C c.178A>C c.201G>A c.203G>A c.307T>C c.361T>A c.380T>C c.383A>G c.455A>C	2 2 2 2 2 3 3 3 3	silent p.Ile60Leu silent p.Ser68Asn p.Ser103Pro p.Leu121Met p.Val127Ala p.Asp128Gly p.Asn152Thr	PMID: 11724987	AB049754	rs1132758 rs1053341 rs41302032 rs62621068 rs1132760 rs41267489 rs201703675 rs758618412 rs17418085	
DLX	<i>RHD*46</i> <i>RHD*DLX</i>	c.667T>G c.712G>A c.733G>C c.744C>T c.787G>A c.800A>T c.916G>A c.932A>G	5 5 5 5 5 5 6 6	p.Phe223Val p.Val238Met p.Val245Leu silent p.Gly263Arg p.Lys267Met p.Val306Ile p.Tyr311Cys	PMID: 21790636		rs1053356 rs1053360 rs150073306 rs1053362 rs3118454 rs112907722 rs590813 rs590787	
DMI	<i>RHD*47</i> <i>RHD*DMI</i>	c.510G>A	4	p.Met170Ile	PMID: 19309476	AM998551		
DMI-1.1	<i>RHD*47.01</i> <i>RHD*DMI-1.1</i>	c.510G>T	4	p.Met170Ile		FR693374		
DNS	<i>RHD*48</i> <i>RHD*DNS</i>	c.485A>G	3	p.Asn162Ser			rs762720982	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DWN	<i>RHD*49</i> <i>RHD*DWN</i>	c.1053C>T c.1057G>T c.1059A>G c.1060G>A c.1061C>A	7 7 7	silent p.Gly353Trp p.Gly353Trp p.Ala354Asn p.Ala354Asn	PMID: 23461862	HF549083	rs41300142 rs200307239 rs1468536305 rs753613761 rs756982993	
RHD(A354T)	<i>RHD*50</i>	c.1060G>A	7	p.Ala354Thr	PMID: 25179760	KJ145901	rs753613761	
RHD(del44L)	<i>RHD*51</i>	c.130delCTC	1	p.Leu44del	PMID: 25070883	KF142381		
RHD(F223S)	<i>RHD*52</i> <i>RHD*01W.141</i> <i>RHD*weak D type</i> <i>141</i>	c.668T>C	5	p.Phe223Ser	PMID: 27189905	KT240043		
RHD(IVS2-2delA)	<i>RHD*53</i> <i>RHD*01EL.22</i> <i>RHD*DEL22</i>	c.336-2delA	i2	Splice site change		KC341996		
RHD(IVS4-2A>C)	<i>RHD*54</i>	c.635-2A>C	i4	Splice site change	PMID: 25179760	KF861936		
RHD(L81P)	<i>RHD*55</i>	c.242T>C	2	p.Leu81Pro		FN555128		
DBA	<i>RHD*56</i> <i>RHD*DBA</i>	c.680T>C	5	p.Leu227Pro	PMID: 15318849	AY449385		
weak partial type 57	<i>RHD*57</i> <i>RHD*weak partial</i> <i>57</i>	c.640C>T	5	p.Leu214Phe	PMID: 17465951	EF105443	rs138176025	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
RHD*D-CE(7)-D	<i>RHD*58</i>	c.941G>T c.968C>A c.974G>T c.979A>G c.985G>C c.986G>A c.989A>C c.992A>T c.1025T>C c.1048G>C c.1053C>T c.1057G>T c.1059A>G c.1060G>A c.1061C>A	7 7 7 7 7 7 7 7 7 7 7 7 8 8 8	p.Gly314Val p.Pro323His p.Ser325Ile p.Ile327Val p.Gly329His p.Gly329His p.Tyr330Ser p.Asn331Ile p.Ile342Thr p.Asp350His silent p.Gly353Trp p.Gly353Trp p.Ala354Asn p.Ala354Asn		HE657775	rs200762372 rs200415166 rs377051051 rs780001468 rs1643863219 rs1643863394 rs751746562 rs755177266 rs138235491 rs41307826 rs41300142 rs200307239 rs1468536305 rs753613761 rs756982993	
RHD(F175L)	<i>RHD*59</i>	c.525C>A	4	p.Phe175Leu	PMID: 23043317		rs1214722999	
weak Partial D	<i>RHD*60</i>	c.689G>T c.992A>T	5 7	p.Ser230Ile p.Asn331Ile			rs1053341 rs374920252	
weak Partial D	<i>RHD*61</i>	c.492C>A	4	p.Asp164Glu		KY614793	rs1553143636	
DNT(V270G)	<i>RHD*62</i>	c.455A>C c.809T>G	3 6	p.Asn152Thr p.Val270Gly		LN554881	rs17418085 rs121912763	
Weak partial D	<i>RHD*63</i>	c.492C>G	4	p.Asp164Glu	PMID: 28714065	KY614793	rs1553143636	
Partial D	<i>RHD*64</i>	c.985G>C c.986G>A c.989A>C c.992A>T	7	p.Gly329His p.Gly329His p.Tyr330Ser p.Asn331Ile			rs1643863219 rs1643863394 rs751746562 rs755177266	
Partial D	<i>RHD*65</i>	c.835G>A c.851C>T c.1136C>T	6 8	p.Val279Met p.Ser284Leu p.Thr379Met			rs139704879 rs1242213324 rs61740966	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Partial D	<i>RHD*66</i>	c.325A>G	2	p.Thr109Ala			rs1376983227	
RHD weak D								
Type 1	<i>RHD*01W.1</i> <i>RHD*weak D type 1</i>	c.809T>G	6	p.Val270Gly	PMID: 9864185	AJ428455	rs121912763	
Type 1.1	<i>RHD*01W.1.1</i> <i>RHD*weak D type 1.1</i>	c.52C>G c.809T>G	1 6	p.Leu18Val p.Val270Gly	PMID: 16181206	AJ704215	rs551392307 rs121912763	
Type1.2	<i>RHD*01W.1.2</i> <i>RHD*weak D type 1.2</i>	c.712G>A c.809T>G	5 6	p.Val238Met p.Val270Gly	PMID: 25179760	KJ145902	rs1053360 rs121912763	
Type 1.3	<i>RHD*01W.1.3</i> <i>RHD* weak D type 1.3</i>	c.667T>G c.809T>G	5 6	p.Phe223Val p.Val270Gly	(2), Abstract		rs1053356 rs121912763	c.809T>G is shared with weak D type 1
Type 2	<i>RHD*01W.2</i> <i>RHD*weak D type 2</i>	c.1154G>C	9	p.Gly385Ala	PMID: 9864185		rs71652374	Splice site change also
Type 2.1	<i>RHD*01W.2.1</i> <i>RHD*weak D type 2.1</i>	c.301T>A c.1154G>C	2 9	p.Phe101Ile p.Gly385Ala		FN568100	n.a. rs71652374	
Type2.2	<i>RHD*01W.2.2</i> <i>RHD*weak D type 2.2</i>	c.916G>A c.932A>G c.1154G>C	6 6 9	p.Val306Ile p.Tyr311Cys p.Gly385Ala	PMID: 25179760	KF861928	rs590813 rs590787 rs71652374	
Type 3	<i>RHD*01W.3</i> <i>RHD*weak D type 3</i>	c.8C>G	1	p.Ser3Cys	PMID: 9864185		rs144969459	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 3.1	<i>RHD*01W.3.1</i> <i>RHD*weak D type 3.1</i>	c.8C>G c.178A>C	1 2	p.Ser3Cys p.Ile60Leu	PMID: 25179760	KF861930	rs144969459 rs1053341	
Type 4.0, 4.1, 4.2, 4.2.2 weak partial	<i>*See partial DAR</i> <i>RHD*09.03, 04, 05</i> <i>RHD*weak partial 4</i>							
Type 5	<i>RHD*01W.5</i> <i>RHD*weak D type 5</i>	c.446C>A	3	p.Ala149Asp	PMID: 9864185		rs775336070	
Type 6	<i>RHD*01W.6</i> <i>RHD*weak D type 6</i>	c.29G>A	1	p.Arg10Gln	PMID: 9864185		rs768456998	
Type 7	<i>RHD*01W.7</i> <i>RHD*weak D type 7</i>	c.1016G>A	7	p.Gly339Glu	PMID: 9864185			
Type 8	<i>RHD*01W.8</i> <i>RHD*weak D type 8</i>	c.919G>A	6	p.Gly307Arg	PMID: 9864185		rs762881746	
Type 9	<i>RHD*01W.9</i> <i>RHD*weak D type 9</i>	c.880G>C	6	p.Ala294Pro	PMID: 9864185			
Type 10	<i>RHD*01W.10</i> <i>RHD*weak D type 10</i>	c.1177T>C	9	p.Trp393Arg	PMID: 9864185		rs201345482	
Type 10.1	<i>RHD*01W.10.1</i> <i>RHD*weak D type 10.1</i>	c.1145T>C c.1177T>C	8 9	p.Leu382Pro p.Trp393Arg		KT870131	n.a. rs201345482	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 10.2	<i>RHD*01W.10.2</i> <i>RHD*weak D type 10.2</i>	c.1177T>C c.1199A>C	9 9	p.Trp393Arg p.Lys400Thr	PMID: 27183894	LC075281	rs201345482 n.a.	
Type 11 weak partial or Del phenotype	<i>See partial RHD*11</i>	c.885G>T	6	p.Met295Ile			rs371803235	allo-anti-D reported Del phenotype when with Ce
Type 12	<i>RHD*01W.12</i> <i>RHD*weak D type 12</i>	c.830G>A	6	p.Gly277Glu	PMID: 9864185		rs1557543876	
Type 13	<i>RHD*01W.13</i> <i>RHD*weak D type 13</i>	c.826G>C	6	p.Ala276Pro	PMID: 9864185			
Type 14	<i>RHD*01W.14</i> <i>RHD*weak D type 14</i>	c.544T>A c.594A>T c.602C>G	4 4 4	p.Ser182Thr p.Lys198Asn p.Thr201Arg	PMID: 9864185		rs17421158 rs569974439 rs1053355	
Type 15 weak partial phenotype	<i>See partial RHD*15</i>	c.845G>A	6	p.Gly282Asp			rs142484009	allo-anti-D reported
Type 16	<i>RHD*01W.16</i> <i>RHD*weak D type 16</i>	c.658T>C	5	p.Trp220Arg	PMID: 9864185			
Type 17	<i>RHD*01W.17</i> <i>RHD*weak D type 17</i>	c.340C>T	3	p.Arg114Trp	PMID: 10753853		rs1170303671	
Type 18	<i>RHD*01W.18</i> <i>RHD*weak D type 18</i>	c.19C>T	1	p.Arg7Trp		CAB75731	rs142037235	
Type 19	<i>RHD*01W.19</i> <i>RHD*weak D type 19</i>	c.611T>C	4	p.Ile204Thr	PMID: 16934070	AJ557826		

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 20	<i>RHD*01W.20</i> <i>RHD*weak D type 20</i>	c.1250T>C	10	p.Phe417Ser	PMID: 16934070		rs906591455	
Type 21	<i>See partial RHD*21</i>	c.938C>T	6	p.Pro313Leu			rs200137267	allo-anti-D reported
Type 22	<i>RHD*01W.22</i> <i>RHD*weak D type 22</i>	c.1224G>C	9	p.Trp408Cys		AJ278873		
Type 23	<i>RHD*01W.23</i> <i>RHD*weak D type 23</i>	c.634G>T	4	p.Gly212Cys	PMID: 11904002			
Type 24	<i>RHD*01W.24</i> <i>RHD*weak D type 24</i>	c.1013T>C	7	p.Leu338Pro	PMID: 12609022		rs770829982	
Type 25	<i>RHD*01W.25</i> <i>RHD*weak D type 25</i>	c.341G>A	3	p.Arg114Gln		AJ548430	rs770829982	
Type 26	<i>RHD*01W.26</i> <i>RHD*weak D type 26</i>	c.26T>A	1	p.Val9Asp	PMID: 15819673	AJ534720	rs1393968550	
Type 27	<i>RHD*01W.27</i> <i>RHD*weak D type 27</i>	c.661C>T	5	p.Pro221Ser		AJ504792		
Type 28	<i>RHD*01W.28</i> <i>RHD*weak D type 28</i>	c.1152A>C	8	p.Thr384Thr		AJ504793		Splice site change only

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 29	<i>RHD*01W.29</i> <i>RHD*weak D type 29</i>	c.178A>C c.201G>A c.203G>A c.594A>T c.667T>G c.744C>T c.957G>A c.1025T>C	2 2 4 5 5 7 7 7	p.Ile60Leu silent p.Ser68Asn p.Lys198Asn p.Phe223Val silent silent p.Ile342Thr	PMID: 12675718	AY149684 AH012471	rs1053341 rs41302032 rs62621068 rs569974439 rs1053356 rs1053362 rs146292192 rs138235491	
Type 30	<i>RHD*01W.30</i> <i>RHD*weak D type 30</i>	c.1018_1019 delinsAT	7	p.Glu340Met		AJ557825		
Type 31	<i>RHD*01W.31</i> <i>RHD*weak D type 31</i>	c.17C>T	1	p.Pro6Leu	PMID: 16181207	AJ557803	rs555567027	
Type 32	<i>RHD*01W.32</i> <i>RHD*weak D type 32</i>	c.1121T>A	8	p.Ile374Asn	PMID: 16181207	AJ580942		
Type 33	<i>RHD*01W.33</i> <i>RHD*weak D type 33</i>	c.520G>A	4	p.Val174Met	PMID: 12898187		rs147421281	
Type 34	<i>RHD*01W.34</i> <i>RHD*weak D type 34</i>	c.809T>A	6	p.Val270Glu	PMID: 12898187			
Type 35	<i>RHD*01W.35</i> <i>RHD*weak D type 35</i>	c.260G>A	2	p.Gly87Asp		AJ585038		
Type 36	<i>RHD*01W.36</i> <i>RHD*weak D type 36</i>	c.842T>G	6	p.Val281Gly		AJ867387		

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 37	<i>RHD*01W.37</i> <i>RHD*weak D type 37</i>	c.399G>T	3	p.Lys133Asn	PMID: 15318849	AY449384		
Type 38	<i>RHD*01W.38</i> <i>RHD*weak D type 38</i>	c.833G>A	6	p.Gly278Asp	PMID: 15318849	AY449381	rs768516914	
Type 39	<i>RHD*01W.39</i> <i>RHD*weak D type 39</i>	c.1015G>A	7	p.Gly339Arg		AY449383		
Type 40	<i>RHD*01W.40</i> <i>RHD*weak D type 40</i>	c.602C>G	4	p.Thr201Arg		AJ585039	rs1053355	
Type 41	<i>RHD*01W.41</i> <i>RHD*weak D type 41</i>	c.1193A>T	9	p.Glu398Val		AY756316	rs45549244	
Type 41.0.1	<i>RHD*01w.41.0.1</i> <i>RHD*weak D type 41.01.</i>	c.1170T>C c.1193A>T	9 9	p.Leu390Leu p.Glu398Val		KT894159	rs1132772 rs45549244	
Type 42	<i>RHD*01W.42</i> <i>RHD*weak D type 42</i>	c.1226A>T	9	p.Lys409Met	PMID: 16181204		rs375471538	
Type 43	<i>RHD*01W.43</i> <i>RHD*weak D type 43</i>	c.605C>T	4	p.Ala202Val	PMID: 17176325	AM049242	rs1571667570	
Type 44	<i>RHD*01W.44</i> <i>RHD*weak D type 44</i>	c.728A>G	5	p.Tyr243Cys		AJ867386	rs773371990	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 45	<i>RHD*01W.45</i> <i>RHD*weak D type 45</i>	c.1195G>A	9	p.Ala399Thr		AJ867388	rs150059028	
Type 45.1	<i>RHD*01w.45.1</i> <i>RHD weak D type 45.1</i>	c.818C>T c.1195G>A	6 9	p.Ala273Val p.Ala399Thr	PMID: 23550956	FR748226	rs774785863 rs150059028	
Type 45.2	<i>RHD*01w.45.2</i> <i>RHD weak D type 45.2</i>	c.208C>T c.818C>T c.1195G>A	2 6 9	p.Arg70Trp p.Ala273Val p.Ala399Thr	PMID: 24094237		rs542542420 rs774785863 rs150059028	
Type 46	<i>RHD*01W.46</i> <i>RHD*weak D type 46</i>	c.1221C>A	9	p.Phe407Leu		AJ784310		
Type 47	<i>RHD*01W.47</i> <i>RHD*weak D type 47</i>	c.340C>G	3	p.Arg114Gly		AM157176		
Type 48	<i>RHD*01W.48</i> <i>RHD*weak D type 48</i>	c.182G>T	2	p.Gly61Val		AM072759	rs1342457554	
Type 49	<i>RHD*01W.49</i> <i>RHD*weak D type 49</i>	c.770C>T	5	p.Ser257Phe	PMID: 17655577	AM181333	rs1192006597	
Type 50	<i>RHD*01W.50</i> <i>RHD*weak D type 50</i>	c.727T>A	5	p.Tyr243Asn		AM234631		
Type 51	<i>RHD*01W.51</i> <i>RHD*weak D type 51</i>	c.594A>T c.602C>G	4 4	p.Lys198Asn p.Thr201Arg		DQ088170	rs569974439 rs1053355	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 52	<i>RHD*01W.52</i> <i>RHD*weak D type</i> <i>52</i>	c.92T>C	1	p.Phe31Ser		DQ121434		
Type 53	<i>RHD*01W.53</i> <i>RHD*weak D type</i> <i>53</i>	c.740T>G	5	p.Val247Gly		DQ121435		
Type 54	<i>RHD*01W.54</i> <i>RHD*weak D type</i> <i>54</i>	c.365C>T	3	p.Ser122Leu		AM396583	rs752408858	
Type 55	<i>RHD*01W.55</i> <i>RHD*weak D type</i> <i>55</i>	c.895C>G	6	p.Leu299Val		AM746209	rs772372065	
Type 56	<i>RHD*01W.56</i> <i>RHD*weak D type</i> <i>56</i>	c.65C>A	1	p.Ala22Glu	PMID: 17465951	EF105438	rs1241008915	
Type 57	<i>RHD*01W.57</i> <i>RHD*weak D type</i> <i>57</i>	c.640C>T	5	p.Leu214Phe				
Type 58	<i>RHD*01W.58</i> <i>RHD*weak D type</i> <i>58</i>	c.1006G>C	7	p.Gly336Arg	PMID: 17465951	EF105445	rs1160800848	
Type 59	<i>RHD*01W.59</i> <i>RHD*weak D type</i> <i>59</i>	c.1148T>C	8	p.Leu383Pro	PMID: 17465951	EF105446		
Type 60	<i>RHD*01W.60</i> <i>RHD*weak D type</i> <i>60</i>	c.1219delTTCT GG	9	p.Phe407_Trp408d	PMID: 17465951	EF105448		

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 61	<i>RHD*01W.61</i> <i>RHD*weak D type</i> <i>61</i>	c.28C>T	1	p.Arg10Trp	PMID: 17029192	DQ534023	rs746827601	
Type 62	<i>RHD*01W.62</i> <i>RHD*weak D type</i> <i>62</i>	c.661C>A	5	p.Pro221Thr		AM403488		
Type 63	<i>RHD*01W.63</i> <i>RHD*weak D type</i> <i>63</i>	c.758T>A	5	p.Ile253Asn		AM887934		
Type 64	<i>RHD*01W.64</i> <i>RHD*weak D type</i> <i>64</i>	c.881C>T	6	p.Ala294Val		AM902713	rs779150774	
Type 65	<i>RHD*01W.65</i> <i>RHD*weak D type</i> <i>65</i>	c.68C>A	1	p.Ala23Asp		AM922329		
Type 66	<i>RHD*01W.66</i> <i>RHD*weak D type</i> <i>66</i>	c.916G>A	6	p.Val306Ile		AM922514	rs590813	
Type 67	<i>RHD*01W.67</i> <i>RHD*weak D type</i> <i>67</i>	c.722C>T	5	p.Thr241Ile		FM201787		
Type 68	<i>RHD*01W.68</i> <i>RHD*weak D type</i> <i>68</i>	c.165C>T c.1213C>G	2 9	silent p.Gln405Glu		AM183924	rs2301155 n.a.	
Type 69	<i>RHD*01W.69</i> <i>RHD*weak D type</i> <i>69</i>	c.953G>A	7	p.Arg318Gln		FM212559	rs764473605	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 70	<i>RHD*01W.70</i> <i>RHD*weak D type 70</i>	c.1012C>G	7	p.Leu338Val		FM212558		
Type 71	<i>RHD*01W.71</i> <i>RHD*weak D type 71</i>	c.29G>C	1	p.Arg10Pro		EU335051	rs768456998	
Type 72	<i>RHD*01W.72</i> <i>RHD*weak D type 72</i>	c.1212C>A	9	p.Asp404Glu		EF103573	rs767611524	
Type 73	<i>RHD* 01W.73</i> <i>RHD*weak D type 73</i>	c.1241C>T	10	p.Ala414Val		EU604751		
Type 74	<i>RHD* 01W.74</i> <i>RHD*weak D type 74</i> <i>RHD(S68T)</i>	c.203G>C	2	p.Ser68Thr		FN594775	rs62621068	
Type 75	<i>RHD* 01W.75</i> <i>RHD*weak D type 75</i>	c.1194G>C	9	p.Glu398Asp	PMID: 23550956	FR748224		
Type 76	<i>RHD* 01W.76</i> <i>RHD*weak D type 76</i>	c.1215A>C	9	p.Gln405His	PMID: 23550956	FR748225	rs752237488	
Type 77	<i>RHD* 01W.77</i> <i>RHD*weak D type 77</i>	c.766T>C	5	p.Ser256Pro	PMID: 20723165	FN908866		
Type 78	<i>RHD* 01W.78</i> <i>RHD*weak D type 78</i>	c.1228T>G	10	p.Phe410Val	PMID: 20723165	FN908868		

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 79	<i>RHD* 01W.79</i> <i>RHD*weak D type 79</i>	c.560T>C	4	p.Leu187Pro		JQ782890		
Type 80	<i>RHD* 01W.80</i> <i>RHD*weak D type 80</i>	c.539G>A	4	p.Gly180Glu		JX114751		
Type 81	<i>RHD* 01W.81</i> <i>RHD*weak D type 81</i>	c.1199A>C	9	p.Lys400Thr		HE965766		
Type 82	<i>RHD* 01W.82</i> <i>RHD*weak D type 82</i>	c.1184C>T	9	p.Ala395Val		HF545925	rs1484877972	
Type 83	<i>RHD* 01W.83</i> <i>RHD*weak D type 83</i>	c.1238T>G	10	p.Leu413Trp		HF545924		
Type 84	<i>RHD* 01W.84</i> <i>RHD*weak D type 84</i>	c.227G>A	2	p.Ser76Asn		HF674882		
Type 85	<i>RHD* 01W.85</i> <i>RHD*weak D type 85</i>	c.209G>A	2	p.Arg70Gln		FN998904	rs142925159	
Type 86	<i>RHD* 01W.86</i> <i>RHD*weak D type 86</i>	c.1034T>A	7	p.Val345Glu		KJ722727	rs774889533	
Type 87	<i>RHD* 01W.87</i> <i>RHD*weak D type 87</i>	c.374T>A	3	p.Ile125Asn	PMID: 25646655	KM061058	rs869221624	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 88	<i>RHD* 01W.88</i> <i>RHD*weak D type 88</i>	c.182G>C	2	p.Gly61Ala		LN612637	rs1342457554	
Type 89	<i>RHD* 01W.89</i> <i>RHD*weak D type 89</i>	c.67G>C	1	p.Ala23Pro	PMID: 25179760	KJ145904		
Type 90	<i>RHD* 01W.90</i> <i>RHD*weak D type 90</i>	c.993C>G	7	p.Asn331Lys	PMID: 25179760	KF861926	rs369751348	
Type 91	<i>RHD* 01W.91</i> <i>RHD*weak D type 91</i>	c.1187C>G	9	p.Pro396Arg	PMID: 25179760	KF861927	rs760802800	
Type 92	<i>RHD* 01W.92</i> <i>RHD*weak D type 92</i>	c.1145T>C	8	p.Leu382Pro	PMID: 25179760	KJ145907	n.a.	
Type 93	<i>RHD* 01W.93</i> <i>RHD*weak D type 93</i>	c.359C>A	3	p.Ala120Asp		KU847398	rs868537949	
Type 94	<i>RHD* 01W.94</i> <i>RHD*weak D type 94</i> <i>RHD*01EL.46</i> <i>RHD*DEL46</i>	c.884T>C	6	p.Met295Thr	PMID: 24094237	HE861896	rs1553144518	
Type 95	<i>RHD* 01W.95</i> <i>RHD*weak D type 95</i>	c.730G>C	5	p.Ala244Pro	PMID: 24094237			
Type 96	<i>RHD* 01W.96</i> <i>RHD*weak D type 96</i>	c.731C>T	5	p.Ala244Val	PMID: 24094237	KU363610	rs763237896	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 97	<i>RHD* 01W.97</i> <i>RHD*weak D type 97</i>	c.542T>C	4	p.Leu181Pro	PMID: 24094237		rs149700508	
Type 98	<i>RHD* 01W.98</i> <i>RHD*weak D type 98</i>	c.751A>C	5	p.Thr251Pro	PMID: 24094237	LC075277		
Type 99	<i>RHD* 01W.99</i> <i>RHD*weak D type 99</i>	c.1107A>C	8	p.Glu369Asp	PMID: 24094237			
Type 100	<i>RHD* 01W.100</i> <i>RHD*weak D type 100</i>	c.787G>A	5	p.Glu263Arg	PMID: 26340140	FJ041199	rs3118454	
Type 101	<i>RHD* 01W.101</i> <i>RHD*weak D type 101</i>	c.62A>C	1	p.Glu21Ala		LC075263		
Type 102	<i>RHD* 01W.102</i> <i>RHD*weak D type 102</i>	c.73A>T	1	p.Ile25Phe		LC075264	rs759981711	
Type 103	<i>RHD* 01W.103</i> <i>RHD*weak D type 103</i>	c.91T>A	1	p.Phe31Ile		LC075265		
Type 104	<i>RHD* 01W.104</i> <i>RHD*weak D type 104</i>	c.157G>T	2	p.Asp53Tyr		LC075266		
Type 105	<i>RHD* 01W.105</i> <i>RHD*weak D type 105</i>	c.200C>G	2	p.Ser67Trp	PMID: 26340140	LC053436		

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 106	<i>RHD* 01W.106</i> <i>RHD*weak D type 106</i>	c.220T>G	2	p.Trp74Gly	PMID: 26340140	LC053437		
Type 107	<i>RHD* 01W.107</i> <i>RHD*weak D type 107</i>	c.223A>T	2	p.Ser75Cys		LC075269		
Type 108	<i>RHD* 01W.108</i> <i>RHD*weak D type 108</i>	c.287G>A	2	p.Gly96Asp	PMID: 26340140	LC053438	rs1164589620	
Type 109	<i>RHD* 01W.109</i> <i>RHD*weak D type 109</i>	c.376T>C	3	p.Ser126Pro		LC075272		
Type 110	<i>RHD* 01W.110</i> <i>RHD*weak D type 110</i>	c.413A>G	3	p.Gln138Arg	PMID: 26340140	LC053440		
Type 111	<i>RHD* 01W.111</i> <i>RHD*weak D type 111</i>	c.634G>A	4	p.Gly212Ser		LC075275		
Type 112	<i>RHD* 01W.112</i> <i>RHD*weak D type 112</i>	c.635G>A	5	p.Gly212Asp	PMID: 26340140	LC053442		
Type 113	<i>RHD* 01W.113</i> <i>RHD*weak D type 113</i>	c.874T>C	6	p.Trp292Arg		LC075279		
Type 114	<i>RHD* 01W.114</i> <i>RHD*weak D type 114</i>	c.968C>T	7	p.Pro323Leu	PMID: 26340140	LC053445		

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 115	<i>RHD* 01W.115</i> <i>RHD*weak D type 115</i>	c.983T>A	7	p.Met328Lys	PMID: 26340140	LC053446		
Type 116	<i>RHD* 01W.116</i> <i>RHD*weak D type 116</i>	c.346G>C	3	p.Ala116Pro	PMID: 26340140	LC053439		
Type 117	<i>RHD* 01W.117</i> <i>RHD*weak D type 117</i>	c.346G>A	3	p.Ala116Thr		LC075271		
Type 118	<i>RHD* 01W.118</i> <i>RHD*weak D type 118</i>	c.347C>T	3	p.Ala116Val		FR745439		
Type 119	<i>RHD* 01W.119</i> <i>RHD*weak D type 119</i>	c.818C>T	6	p.Ala273Val		FJ041201	rs774785863	
Type 120	<i>RHD* 01W.120</i> <i>RHD*weak D type 120</i>	c.818C>A	6	p.Ala273Glu	PMID: 25179760	FR745441		
Type 121	<i>RHD* 01W.121</i> <i>RHD*weak D type 121</i>	c.176C>A	2	p.Ala59Asp		LC075267		
Type 122	<i>RHD* 01W.122</i> <i>RHD*weak D type 122</i>	c.208C>T	2	p.Arg70Trp		JF816274	rs542542420	
Type 123	<i>RHD* 01W.123</i> <i>RHD*weak D type 123</i>	c.379G>T	3	p.Val127Leu		LC075273		

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 124	<i>RHD* 01W.124</i> <i>RHD*weak D type</i> <i>124</i>	c.594A>T	4	p.Lys198Asn		LC075274	rs569974439	
Type 125	<i>RHD* 01W.125</i> <i>RHD*weak D type</i> <i>125</i>	c.671A>G	5	p.Asn224Ser		LC075276	rs756129923	
Type 126	<i>RHD* 01W.126</i> <i>RHD*weak D type</i> <i>126</i>	c.1199A>T	9	p.Lys400Ile		LC075282	rs1333746082	
Type 127	<i>RHD* 01W.127</i> <i>RHD*weak D type</i> <i>127</i>	c.1200A>T	9	p.Lys400Asn	PMID: 23228153	JQ405078		
Type 128	<i>RHD* 01W.128</i> <i>RHD*weak D type</i> <i>128</i>	c.1207G>T	9	p.Asp403Tyr		LC075283		
Type 129	<i>RHD* 01W.129</i> <i>RHD*weak D type</i> <i>129</i>	c.1208A>T	9	p.Asp403Val	PMID: 22320258	JQ405077		
Type 130	<i>RHD* 01W.130</i> <i>RHD*weak D type</i> <i>130</i>	c.163A>C	2	p.Thr55Pro	PMID: 22320258	JF816273		
Type 131	<i>RHD* 01W.131</i> <i>RHD*weak D type</i> <i>131</i>	c.254C>G	2	p.Ala85Gly	PMID: 22320258	HE613970	rs139501061	
Type 132	<i>RHD* 01W.132</i> <i>RHD*weak D type</i> <i>132</i>	c.394G>A	3	p.Gly132Arg	PMID: 22320258	FJ041200		

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 133	<i>RHD* 01W.133</i> <i>RHD*weak D type 133</i>	c.395G>A	3	p.Gly132Glu	PMID: 22320258			
Type 134	<i>RHD* 01W.134</i> <i>RHD*weak D type 134</i>	c.1168C>G	9	p.Leu390Val	PMID: 23228153	JQ608469		
Type 135	<i>RHD* 01W.135</i> <i>RHD*weak D type 135</i>	c.884T>A	6	p.Met295Lys		KT819195		
Type 136	<i>RHD* 01W.136</i> <i>RHD*weak D type 136</i>	c.41C>T	1	p.Pro14Leu		KU363603		
Type 137	<i>RHD* 01W.137</i> <i>RHD*weak D type 137</i>	c.780C>A	5	p.His260Gln		KU363612	rs1170243924	
Type 138	<i>RHD* 01W.138</i> <i>RHD*weak D type 138</i>	c.871C>T	6	p.Pro291Ser		KU363614		
Type 139	<i>RHD* 01W.139</i> <i>RHD*weak D type 139</i>	c.1169T>C	9	p.Leu390Pro		KU363615		
Type 140	<i>RHD* 01W.140</i> <i>RHD*weak D type 140</i>	c.1229T>C	10	p.Phe410Ser	PMID: 27189905	LN999843		
Type 141	<i>RHD* 01W.141</i> <i>RHD*weak D type 141</i>	c.668T>C	5	p.Phe223Ser				

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 142	<i>RHD* 01W.142</i> <i>RHD*weak D type 142</i>	c.67G>T	1	p.Ala23Ser		LN999948		
Type 143	<i>RHD* 01W.143</i> <i>RHD*weak D type 143</i>	c.173C>T	2	p.Ala58Val		LN885096	rs370947145	
Type 144	<i>RHD* 01W.144</i> <i>RHD*weak D type 144</i>	c.579G>C	4	p.Glu193Asp		LT574827	rs77813628	
Type 145	<i>RHD* 01W.145</i> <i>RHD*weak D type 145</i>	c.41C>G	1	p.Pro14Arg				
Type 146	<i>RHD* 01W.146</i> <i>RHD*weak D type 146</i>	c.438G>C	3	p.Glu146Asp				
Type 147	<i>RHD* 01W.147</i> <i>RHD*weak D type 147</i>	c.436G>A	3	p.Glu146Lys				
Type 148	<i>RHD* 01W.148</i> <i>RHD*weak D type 148</i>	c.670A>G	5	p.Asn224Asp				
Type 149	RHD* 01W.149 RHD*weak D type 149	c.779A>G	5	p.His260Arg				
Type 150	<i>RHD* 01W.150</i> <i>RHD*weak D type 150</i>	c.327_487- 4164dup	2 4					

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 151	RHD* 01W.151 RHD*weak D type 151	c.175G>A	2	p.Ala59Thr				
Type 152	RHD* 01W.152 RHD*weak D type 152	c.187G>T	2	p.Gly63Cys				
Type 153	RHD* 01W.153 RHD*weak D type 153	c.365C>G	3	p.Ser122Trp				
Type 154	RHD* 01W.154 RHD*weak D type 154	c.648G>C	5	p.Leu216Phe				
Type 155	RHD* 01W.155 RHD*weak D type 155	c.710C>T	5	p.Ala237Val				
Type 156	RHD* 01W.156 RHD*weak D type 156	c.1190A>G	9	p.His397Arg				
Type 157	RHD* 01W.157 RHD*weak D type 157	c.83_85delTCT	1	p.Phe28del		LT574827	n.a.	
Type 158	RHD* 01W.158 RHD*weak D type 158	c.526G>C	4	p.Ala176Pro				
Type 159	RHD* 01W.159 RHD*weak D type 159	c.1213C>A	9	p.Gln405Lys				

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Type 160	<i>RHD* 01W.160</i> <i>RHD*weak D type 160</i>	c.917T>A	6	p.Val306Asp				
Type 161	<i>RHD* 01W.161</i> <i>RHD*weak D type 161</i>	c.611T>A	4	p.Ile204Lys				
Type 162	<i>RHD* 01W.162</i> <i>RHD*weak D type 162</i>	c.782C>T	5	p.Pro261Leu	PMID: 33057632	MN366000		
Type 163	<i>RHD* 01W.163</i> <i>RHD*weak D type 163</i>	c.1016G>C	7	p.Gly339Ala	PMID: 33057632	MN366002		
Del defined as weak D expression primarily detectable only by adsorption and elution								
Del	<i>RHD*01EL.01</i> <i>RHD*DEL1</i>	c.1227G>A	9	p.Lys409Lys	PMID: 11495631	JQ424879	rs549616139	Splice site affected
Del	<i>RHD*01EL.02</i> <i>RHD*DEL2</i>	c.3G>A	1	p.Met1Ile	PMID: 17029192	DQ310735	n.a.	
Del	<i>RHD*01EL.03</i> <i>RHD*DEL3</i>	c.53T>C	1	p.Leu18Pro	PMID: 17029192	DQ451877	n.a.	
Del	<i>RHD*01EL.04</i> <i>RHD*DEL4</i>	c.147delA	1	p.Val50Leufs*5	PMID: 19243542	AM998539	n.a.	
Del	<i>RHD*01EL.05</i> <i>RHD*DEL5</i>	c.148+1G>A	i1	Splice site variant	(1), Abstract		n.a.	
Del or weak D	<i>RHD*01EL.06</i> <i>RHD*DEL6</i>	c.251T>C	2	p.Leu84Pro	PMID: 17029192	DQ310734	n.a.	
Del or weak D	<i>RHD*01EL.07</i> <i>RHD*DEL7</i>	c.410C>A	3	p.Ala137Glu	PMID: 19490579	DQ534022		

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Del	<i>RHD*01EL.08</i> <i>RHD*DEL8</i>	c.486+1G>A	i3	Splice site variant	PMID: 11495631		rs149598033	
Del or D negative	<i>RHD*01EL.09</i> <i>RHD*DEL9</i>	c.486+2T>A	i3	Splice site variant	PMID: 19243542	AM998540	rs1307580717	
Del	<i>RHD*01EL.10</i> <i>RHD*DEL10</i>	c.1222T>C	9	p.Trp408Arg	PMID: 15752151		n.a.	
Del	<i>RHD*01EL.11</i> <i>RHD*DEL11</i>	c.1252_1253 insT	10	p.*418Leuext*70	PMID: 15819673	AJ630384	n.a.	
Del	<i>RHD*01EL.12</i> <i>RHD*DEL12</i>	c.458T>C	3	p.Leu153Pro	PMID: 19243542	AM998545	n.a.	
Del or D negative	<i>RHD*01EL.13</i> <i>RHD*DEL13</i>	c.785del A	5	p.Lys264Argfs*24	PMID: 19243542	AM998549		
Del	<i>RHD*01EL.14</i> <i>RHD*DEL14</i>	c.634+5G>T	i4	Splice site variant	PMID: 23216299	FJ041198		G>A associated with weak D
Del or D negative	<i>RHD*01EL.15</i> <i>RHD*DEL15</i> <i>RHD*01N.52</i>	c.922G>T	6	p.Gly308Ter		FN998907		
Del	<i>RHD*01EL.16</i> <i>RHD*DEL16</i>	c.634G>C	4	p.Gly212Arg	PMID: 19243542	AM998546	n.a.	212Cys reported as weak D
Del	<i>RHD*01EL.17</i> <i>RHD*DEL17</i>	c.1203T>A	9	p.Tyr401Ter			rs759513820	
Del	<i>RHD*01EL.18</i> <i>RHD*DEL18</i> <i>RHD*01N.50</i>	c.93_94insT	1	p.Thr32Tyfs*4	PMID: 18694461	EU447199		
Del	<i>RHD*01EL.19</i> <i>RHD*DEL19</i>	c.635-2A>G	i4	Splice site variant	PMID: 20723165	FN908869		
Del	<i>RHD*01EL.20</i> <i>RHD*DEL20</i>	c.1154-8T>A	i8	Splice site variant	PMID: 17465951	EF105447		

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Del	<i>RHD*01EL.21</i> <i>RHD*DEL21</i>	c.148+5G>C	i1	Splice site variant		KC290446		
Del	<i>RHD*01EL.22</i> <i>RHD*DEL22</i>	c.336-2delA	i2	Splice site variant				
Del Partial D	<i>RHD*01EL.23</i> <i>RHD*DEL23</i>	RHD-CE(5-7)-D	5 6 7	Hybrid allele				DBU
Del	<i>RHD*01EL.24</i> <i>RHD*DEL24</i>	c.838G>A	6	p.Ala280Thr	PMID: 24884404	KJ558353		
Del	<i>RHD*01EL.25</i> <i>RHD*DEL25</i>	c.1252T>A	10	p.Ter418Lysext*?	PMID: 25953588	LC004699		
Del	<i>RHD*01EL.26</i> <i>RHD*DEL26</i>	c.1248_1249 insG	10	p.Phe417Valfs*?	PMID: 25179760	KJ145906		
Del	<i>RHD*01EL.28</i> <i>RHD*DEL28</i>	c.993delC	7	p.Phe332Serfs*27		LN680540		
Del	<i>RHD*01EL.29</i> <i>RHD*DEL29</i>	c.1210G>C	9	p.Asp404His		JX114749		
Del	<i>RHD*01EL.30</i> <i>RHD*DEL30</i>	c.1074-649 del Ex8	i7 8 i8	Large Deletion	PMID: 17465950		n.a.	
Del	<i>RHD*01EL.31</i> <i>RHD*DEL31</i>	c.148+1G>T	i1	Splice site variant	PMID: 25179760	KF861925		
Del	<i>RHD*01EL.32</i> <i>RHD*DEL32</i>	c.149-29G>C	i1	Intron polymorphism		HE971139	rs2301153	
Del	<i>RHD*01EL.33</i> <i>RHD*DEL33</i>	c.336-2A>G	i2	Splice site variant	PMID: 21569040	HQ444177	rs1187956199	
Del	<i>RHD*01EL.35</i> <i>RHD*DEL35</i>	c.802-38_35del	5	Intron polymorphism				

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
Del	<i>RHD*01EL.36</i> <i>RHD*DEL36</i>	c.1227G>A c.1073+152C>A	9 i7	Splice site variant	PMID: 12201845	AF390111	rs41307824 rs549616139	
Del	<i>RHD*01EL.37</i> <i>RHD*DEL37</i>	c.1154-31C>T	i8	Intron polymorphism				
Del	<i>RHD*01EL.38</i> <i>RHD*DEL38</i> <i>RHD*01N.57</i>	c.1010T>G	7	p.Leu337Arg	PMID: 25179760	KF861923		
Del	<i>RHD*01EL.39</i> <i>RHD*DEL39</i>	c.113T>A	1	p.Leu38Ter		FN998906		
Del	<i>RHD*01EL.40</i> <i>RHD*DEL40</i>	c.278T>G	2	p.Leu93Arg	PMID: 25179760	KF861931		
Del	<i>RHD*01EL.41</i> <i>RHD*DEL41</i>	c.872C>G	6	p.Pro291Arg		HE999545	rs778406196	
Del	<i>RHD*01EL.42</i> <i>RHD*DEL42</i>	c.335G>C c.149-29G>C	2 i1	p.Ser112Thr		HE999547	rs2301153	
Del	<i>RHD*01EL.43</i> <i>RHD*DEL43</i>	c.46T>C	1	p.Trp16Arg		HE999546	rs1234095130	
Del	<i>RHD*01EL.44</i> <i>RHD*DEL44</i>	RHD-CE(4-9)-D	4-9	Hybrid allele	PMID: 19490579			
Del	<i>RHD*01EL.45</i> <i>RHD*DEL45</i>	c.721A>C	5	p.Thr241Pro			rs1553143921	
Del	<i>RHD*01EL.46</i> <i>RHD*DEL46</i>	c.884T>C	6	p.Met295Thr			rs1553144518	
DEL Partial D	<i>RHD*01EL.47</i> <i>RHD*DEL47</i>	c.510_511insG	4	p.His171Alafs*28	PMID: 28714065	KR611039		also known as c.510dupG

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
DEL Partial D	<i>RHD*01EL.48</i> <i>RHD*DEL48</i> <i>RHD*Ex9del</i> <i>RHD*DKG</i>	Exon 9 deletion	9	p.Gly385Valfs*80	PMID: 29214630	KX793704		
Del	<i>RHD*01EL.49</i> <i>RHD*DEL49</i>	c.1016G>T	7	p.Gly339Val				
Del	<i>RHD*01EL.50</i> <i>RHD*DEL50</i>	c.1151C>G	8	p.Thr384Arg				

D negative								
D-	<i>RHD*01N.01</i>	<i>RHD deletion</i>	1-10	p.0	PMID: 1824267 PMID: 10845894			
D-	<i>RHD*08N.01</i> <i>RHD*Pseudo-gene</i> <i>RHD* ψ</i>	37- bp insertion c.609G>A c.654G>C c.667T>G c.674C>T c.807T>G	i3 4 5 5 5 6	p.0	PMID: 10607679 PMID: 19351380 PMID: 29296782 PMID: 11495631 PMID: 22420413		n.a. rs114032679 rs141540728 rs1053356 rs148014996 rs141833592	
D-	<i>RHD*01N.02</i>	CE exons 1-9	1-9	Hybrid	PMID: 11495631 PMID: 7701812			
D-	<i>RHD*01N.03</i>	CE exons 2-9	2-9	Hybrid				Ce in trans
D-	<i>RHD*01N.04</i>	CE exons 3-9	3-9	Hybrid	PMID: 15819673	AJ633649		
D-	<i>RHD*01N.05</i>	CE exons 2-7	2-7	Hybrid	PMID: 11495631 PMID: 15819673 PMID: 23634715			

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
D- C+ very weak	<i>RHD*01N.06</i>	CE exons 4-7 with 733C>G 1006G>T	4-7	Hybrid with p.Leu245Val p.Gly336Cys	PMID: 19040491		void rs150073306 rs1160800848	(Part of r ^S Haplotype) type 2 hybrid
D- C+	<i>RHD*03N.01</i>	c.186G>T c.410C>T c.455A>C CE exons 4-7 with 733C>G 1006G>T	2 3 3 4-7	p.Leu62Phe p. Ala137Val p. Asn152Thr hybrid with p.Leu245Val p.Gly336Cys	PMID: 19351380 PMID: 29296782 PMID: 11495631 PMID: 22420413 PMID: 19040491 PMID: 7701812 PMID: 9024488 PMID: 9767746 PMID: 14505497	KF515558	rs199509194 rs113982491 rs17418085 void rs150073306 rs1160800848	(Part of r ^S haplotype)
	<i>RHD*03N.02</i>	c.186G>T c.410C>T c.455A>C CE exons 4-9 with 733C>G 1006G>T	2 3 3 4-9	p.Leu62Phe p. Ala137Val p. Asn152Thr hybrid with p.Leu245Val p.Gly336Cys				

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
D-G+	<i>RHD*01N.07</i>	CE exons 4-7	4-7	Hybrid	PMID: 19351380 PMID: 29296782 PMID: 11495631 PMID: 22420413 PMID: 19040491 PMID: 7701812 PMID: 9024488 PMID: 9767746 PMID: 14505497 PMID: 8669081 PMID: 15819673			in cis to cE (r''G) or Ce
D-	<i>RHD*01N.08</i>	c.48G>A	1	p.Trp16Ter	PMID: 11495631		rs772865539	premature stop codon
D-	<i>RHD*01N.09</i>	c.121C>T c.643T>C c.646T>C c.988T>C	1 5 5 7	p.Gln41Ter	PMID: 9116304			
D-	<i>RHD*01N.10</i>	c.270G>A	2	p.Trp90Ter	PMID: 12201845	AF390115		premature stop codon
D-	<i>RHD*01N.11</i>	c.325del A	2	p.Thr109Hisfs*10	PMID: 17348873	DQ309581		Frameshift and premature stop codon
D-	<i>RHD*01N.12</i>	c.449del T	3	p.Leu150Ter				Premature stop codon
D-	<i>RHD*01N.13</i>	c.487_490delA CAG	4	p.Asp164Thrfs*3	PMID: 9716619	AF037626		Frameshift and premature stop codon
D-	<i>RHD*01N.14</i>	c.554G>A	4	p.Trp185Ter	PMID: 15752151		rs1199559517	premature stop codon
D-	<i>RHD*01N.15</i>	c.635G>T	5	p.Gly212Val	PMID: 11495631			splice site change
D-	<i>RHD*01N.16</i>	c.711del C	5	p.Val238Cysfs*8	PMID: 12201845	AF390112		frameshift and premature stop codon
D-	<i>RHD*01N.17</i>	c.652delA c.653T>G	5	p.Met218Glyfs*11		EF010986		Frameshift and premature stop codon

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
D-	<i>RHD*01N.18</i>	c.807T>G	6	p.Tyr269Ter	PMID: 19243542	AM998550	rs141833592	premature stop codon
D-	<i>RHD*01N.19</i>	c.933C>A	6	p.Tyr311Ter	PMID: 15663721	DQ132882		premature stop codon
D-	<i>RHD*01N.20</i>	c.941G>T	7	p.Gly314Val	PMID: 9218514		rs200762372	splice site change
D-	<i>RHD*01N.21</i>	c.990C>G	7	p.Tyr330Ter	PMID: 11495631			premature stop-codon
D-	<i>RHD*01N.22</i>	c.1203T>A	9	p.Tyr401Ter	PMID: 15819673	AJ630385	rs759513820	premature stop-codon
D-	<i>RHD*01N.23</i>	c.343del C	3	p.Leu115Trpfs*4	PMID: 19243542	AM998542	rs1364237973	Frameshift and premature stop codon
D-	<i>RHD*01N.24</i>	c.335+1G>A	i2	Alternative splicing	PMID: 17348873	DQ309582		splice site change
D-	<i>RHD*01N.25</i>	c.336-1G>A	i2	Alternative splicing	PMID: 15752151			splice site change
D-	<i>RHD*01N.26</i>	c.1153+1G>A	i8	Alternative splicing	PMID: 11495631		rs1292183494	splice site change
D-	<i>RHD*01N.27</i>	c.908_909insT GGCT c.939+2_939+5 delTAAG	6 i6	p.Leu303Glyfs*3	PMID: 12201845	AF390113		Frameshift and premature stop codon & splice site change
D-	<i>RHD*01N.28</i>	c.970delCAC c.976delTCCAT CATGGGCTAC A	7 7	p.His324Serfs*29	PMID: 19392776	EF195359		Frameshift and premature stop codon
D-	<i>RHD*01N.29</i> <i>RHD*660delG</i> <i>RHD*01N.78</i> <i>RHD*659delG</i>	c.660delG	5	p.Trp220Cysfs*9	PMID: 19243542	AM998547		Frameshift and premature stop codon
D-	<i>RHD*01N.30</i>	c.745_757del13	5	p.Val249Serfs*35				Frameshift and premature stop codon

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
D-	<i>RHD*01N.31</i>	c.93delC	1	fs at 31			rs761850698	Frameshift (T at position c.93 in consensus sequence and no reference found, therefore obsolete)
D-	<i>RHD*01N.32</i>	c.78delC	1	p.Leu27Serfs*12	PMID: 20136792	GQ477180		Frameshift and premature stop codon
D-	<i>RHD*01N.33</i>	c.712delG	5	p.Val238Cysfs*8	PMID: 19243542	AM998548		Frameshift and premature stop codon
D-	<i>RHD*01N.34</i>	c.615_616delC A	4	p.Ser206Phefs*111	PMID: 22964318	GQ289585		Frameshift and premature stop codon
D-	<i>RHD*01N.35</i>	c.330_331delG T	2	p.Phe111Glnfs*48	PMID: 17465951	EF105440	rs758701720	Frameshift and premature stop codon
D-	<i>RHD*01N.36</i>	c.1080_1089del CTTCCAGGTC	8	p.Phe361Serfs*12		GU362076		Frameshift and premature stop codon
D-	<i>RHD*01N.37</i>	c.297_319delC CAGTTCCCTT CTGGGAAGGT GG	2	p.Gln100Hisfs*52		KC290447		Frameshift and premature stop codon
D-	<i>RHD*01N.38</i>	c.939+2T>A	i6	Alternative splicing		KC290445		splice site change
D-	<i>RHD*01N.39</i>	c.767C>G	5	p.Ser256Ter	PMID: 23634715	HE814563	rs780356470	premature stop-codon
D-	<i>RHD*01N.40</i>	c.1029C>A	7	p.Tyr343Ter	PMID: 23634715	HE814564		premature stop-codon
D-	<i>RHD*01N.41</i>	c.361delTTGTC GGTGCT	3	p.Leu121Aspfs*35	PMID: 22612274		rs751933696	Frameshift and premature stop codon
D-	<i>RHD*01N.42</i>	CE exons1, 7- 10	1 7-10	Hybrid				

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
D-	<i>RHD*01N.43</i>	CE exons 1-3	1 2 3	Hybrid	PMID: 19243542			
D-	<i>RHD*01N.44</i>	c.1228-1_1248delgTTT CCTCATTTGG CTGTTGGA	i9	p.?		LN680543		splice site change
D-	<i>RHD*01N.45</i>	c.216_217dupC A c.1195G>A	2 9	p.Ser73Thrfs*27		JX193764	rs150059028	Frameshift and premature stop codon
D-	<i>RHD*01N.46</i>	c.545_548delC TGT	4	p.Ser182Trpfs*46	PMID: 22320258	HE613975		Frameshift and premature stop codon
D-	<i>RHD*01N.47</i>	c.745_759delins AG	5	p.Val249Serfs*35		EU499361		Frameshift and premature stop codon (may be the same allele as <i>RHD*01N.30</i>)
D-	<i>RHD*01N.48</i>	c.822delG	6	p.Leu275Trpfs*13		HG779212		Frameshift and premature stop codon
D-	<i>RHD*01N.49</i>	c.915delC	6	p.Val306Serfs*53	PMID: 25179760	KF861933		Frameshift and premature stop codon
D-	<i>RHD*01N.50</i>	c.93dupT	1	p.Thr32Tyrfs*4				Frameshift and premature stop codon
D-	<i>RHD*01N.51</i>	c.950delA	7	p.Asn317Thrfs*42		JN644481		Frameshift and premature stop codon
D-	<i>RHD*01N.52</i>	c.922G>T	6	p.Gly308Ter				premature stop codon
D-	<i>RHD*01N.53</i>	c.1154G>A	9	p.Gly385Asp	PMID: 25179760	KJ145905		Splice site change
D-	<i>RHD*01N.54</i>	c.801+1G>A	i5	Alternative splicing		JQ846090	rs1399683971	Splice site variant

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
D-	<i>RHD*01N.55</i>	c.939+1G>A	i6	Alternative splicing	PMID: 25179760	KF861934		Splice site variant
D-	<i>RHD*01N.56</i>	c.1073+2T>C	i7	Alternative splicing		JQ862601		Splice site variant
D-Del	<i>RHD*01N.57</i>	c.1010T>G	7	p.Leu337Arg				Could be DEL per publication as no adsorption elution was performed
D-	<i>RHD*01N.58</i>	c.802-41_802-38delCTCT c.1157T>A	i5 9	p.Leu386Ter	PMID: 15819672		rs1399683971	premature stop codon
D-	<i>RHD*01N.59</i>	c.598C>T	4	p.Gln200Ter		HE572746		premature stop codon
D-	<i>RHD*01N.60</i>	c.1213C>T	9	p.Gln405Ter		LC004700		premature stop codon
D-	<i>RHD*01N.61</i>	c.952C>T	7	p.Arg318Ter	PMID: 19243542	AM998543	rs760262848	premature stop codon
D-	<i>RHD*01N.62</i>	c.761C>G	5	p.Ser254Ter	PMID: 25953588	LC004698	rs1264388315	premature stop codon
D-	<i>RHD*01N.63</i>	c.933C>G	6	p.Tyr311Ter				premature stop codon
D-	<i>RHD*01N.64</i>	c.1084C>T	8	p.Gln362Ter			rs1553147937	
D-	<i>RHD*01N.65</i>	c.124_125delAA	1	p.Lys42Glyfs*117				frameshift
D-	<i>RHD*01N.66</i>	c.1174delA	9	p.Ile392Tyrf*25				frameshift
D-	<i>RHD*01N.67</i>	RHD exon 1 deletion (intron breakpoints unknown)	1	p.0				
D-	<i>RHD*01N.68</i>	c.335G>T	2	p.Ser112Ile		JQ405075	rs765216289	splice site change
D-	<i>RHD*01N.69</i>	c.634+1G>T c.1136C>T	i4 8	Alternative splicing			rs751341830 rs61740966	splice site change

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
D-	<i>RHD*01N.70</i>	c.1073+1G>T	i7	Alternative splicing			rs1553145693	splice site change
D-	<i>RHD*01N.71</i>	c.1074-1G>A	i7	Alternative splicing			rs1556425114	splice site change
D-	<i>RHD*01N.72</i>	c.361T>A c.380T>C c.383A>G c.455A>C c.602C>G c.667T>G c.819G>A	3 3 3 3 4 5 6	p.Leu121Met p.Val127Ala p.Asp128Gly p.Asn152Thr p.Thr201Arg p.Phe223Leu silent			rs41267489 rs201703675 rs758618412 rs17418085 rs1053355 rs1053356 rs150606530	
D-	<i>RHD*01N.73</i>	c.443C>G	3	p.Thr148Arg	PMID: 23043317	HE861895	rs757700094	
D-	<i>RHD*01N.74</i>	c.424_426delAT G	3	p.Met142del				In-frame deletion
D-	<i>RHD*01N.75</i>	c.581_582insG	4	p.Thr195Asnfs*4	PMID: 24819281	KU899995		Frameshift and premature stop codon
D-	<i>RHD*01N.76</i>	c.1179G>A	9	p.Trp393Ter	PMID: 25179760	KF861935		premature stop codon
D-	<i>RHD*01N.77</i>	c.1228-1G>A	i9	Alternative splicing	PMID: 25179760	KF861924		splice site change
D-	<i>RHD*01N.78</i>	c.659delG	5	p.Trp220Cysfs*9				Frameshift and premature stop codon
D-	<i>RHD*01N.79</i>	c.896T>C	6	p.Leu299Pro		HQ659021		
D-	<i>RHD*01N.80</i>	c.1007G>A	7	p.Gly336Asp		HQ659022	rs1391779105	

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number	Comment
D-	<i>RHD*01N.81</i>	c.1074-2A>C	i7	Alternative splicing		HQ665313	rs1176954465	splice site change
D-	<i>RHD*01N.82</i>	c.697delG	5	p.Glu233Lysfs*13				Frameshift and premature stop codon
D-	<i>RHD*01N.83</i>	c.702delG	5	p.Lys235Argfs*11		KY229721		Frameshift and premature stop codon
D-	<i>RHD*01N.84</i>	c.150T>C c.186G>T c.410C>T c.455A>C c.543G>C c.609G>A c.654G>C c.667T>G c.674C>T c.807T>G	2 2 3 3 4 4 5 5 5 6	p.Ile60Leu p.Leu62Phe p.Ala137Val p.Asn152Thr Silent Silent p.Met218Ile p.Phe223Val p.Ser225Phe p.Tyr269Ter				
D-	<i>RHD*01N.85</i>	c.4A>T c.5G>C c.6_7insG	1 1 1					
D-	<i>RHD*01N.86</i>	c.806_807insA	6	p.Tyr269X	PMID: 35834428	OL472882		

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Track of changes

			from	to
1	Version		v6.1 31-MAR-2022	v6.2 30-SEP-2022
2	Author	created	Q. Chen	Q. Chen
3	Reviewer	reviewed	n.a.	F. Wagner
4	Allele	Allele added		<i>RHD*01W.162</i> <i>RHD*01W.163</i> <i>RHD*01N.86</i>
5	Allele	Exon changed		c.505, c.509, c.514 corrected to exon 4
6	Reference	added		PMID: 35834428 added
7	Reference	added		PMID: 33057632 added
8	Intro	changed		NM_001127691.3 (transcript variant 2) to NM_016124.6 (transcript variant 1)
9	End Version		v6.1 31-MAR-2022	v6.2 30-SEP-2022

Track of changes

			from	to
1	Version		v6.0 30-NOV-2021	v6.1 31-MAR-2022
2	Author	created	All RHD tables merged	Q. Chen
3	Reviewer	reviewed	Q. Chen	n.a.
4	References	Abstract added		Abstract (2) added
5	Allele	Abstract added		<i>RHD*01W.1.3</i> <i>RHD*</i> weak D type 1.3: Abstract (2) added
6	End Version		v6.0 30-NOV-2021	v6.1 31-MAR-2022

Track of changes		from	to
1	Version	4.0/5.0 180207	v6.0 30-NOV-2021
2	Author created	Q. Chen	All RHD tables merged
3	Reviewer reviewed	n.a.	Q. Chen
4			Use phenotypes from ISBT.org only
5	General All RHD tables merged		Merged tables 'partial RHD', 'RHD weak D', 'RHD Del', 'RHD negative'
6	Format updated		Updated to newest project-2-format
7		RHD*03.02	Inserted 'silent'
8		RHD*03.09	exon numbering corrected
9		RHD*04.01.02	exon numbering corrected
10		RHD*04.03	used short form for mutations
11		RHD*04.03	exon numbering corrected
12		RHD*04.03	used short form for nucleotide changes
13		RHD*04.03	added 'silent' instead of empty line
14		RHD*04.04	used short form for mutations
15		RHD*04.04	used short form for nucleotide changes
16		RHD*04.05	used short form for mutations
17		RHD*04.05	exon numbering corrected
18		RHD*04.05	used short form for nucleotide changes
19		RHD*04.05	Inserted 'silent'
20		RHD*04.06	used short form for mutations
21		RHD*04.06	exon numbering corrected
22		RHD*04.06	used short form for nucleotide changes
23		RHD*04.06	Inserted 'silent'
24		RHD*05.02	added 'silent' instead of empty line
25		RHD*05.07	removed nucleotide (p.Gly263Arg) from wrong place
26		RHD*05.08	added 'silent' instead of empty line
27		RHD*05.10	added 'silent' instead of empty line
28		RHD*09.01	added 'silent' instead of empty lines
29		RHD*09.01.01	added 'silent' instead of empty line
30		RHD*10.00.01	added 'silent' instead of empty line
31		RHD*10.00.02	added 'silent' instead of empty line
32		RHD*10.00.02	corrected p.Thr370Met to p.Thr379Met
33		RHD*11	merged 2 lines: added PMIDs: PMID: 9864185 PMID: 11495631
34		RHD*14.01	used short form for mutations
35		RHD*14.01	used short form for nucleotide changes
36		RHD*14.02	used short form for mutations
37		RHD*14.02	used short form for nucleotide changes
38		RHD*17.03	unsure genetic codes
39		RHD*41	added 'silent' instead of empty lines
40		RHD*48	corrected p.Asn162Ser to p.Asn331Ile
41		RHD*58	used short form for mutations
42		RHD*58	used short form for nucleotide changes
43		RHD*58	added 'silent' instead of empty line
44		RHD*03.01	Replaced rs-numbers

Track of changes		from	to
1	Version	4.0/5.0 180207	v6.0 30-NOV-2021
45		RHD*03.06	Replaced rs-numbers
46		RHD*03.07	Replaced rs-numbers
47		RHD*03.09	Replaced rs-numbers
48		RHD*04.01.02	Replaced rs-numbers
49		RHD*04.03	Inserted 'silent'
50		RHD*04.04	Inserted 'silent'
51		RHD*04.05	Inserted 'silent'
52		RHD*05.01	Replaced rs-numbers
53		RHD*05.02	Replaced rs-numbers
54		RHD*05.02	Inserted 'silent'
55		RHD*05.03	Replaced rs-numbers
56		RHD*05.06	Replaced rs-numbers
57		RHD*05.07	Replaced rs-numbers
58		RHD*05.07	Inserted 'silent'
59		RHD*05.07	Replaced rs-numbers
60		RHD*05.08	Replaced rs-numbers
61		RHD*05.10	Replaced rs-numbers
62		RHD*05.10	Inserted 'silent'
63		RHD*06.01	Replaced rs-numbers
64		RHD*06.01	Inserted 'silent'
65		RHD*06.02	Replaced rs-numbers
66		RHD*06.02	Inserted 'silent'
67		RHD*06.03	Inserted 'silent'
68		RHD*06.03.01	added allele name to <i>RHD*06.03</i>
69		RHD*06.03.02	Replaced rs-numbers
70		RHD*06.04	Replaced rs-numbers
71		RHD*06.04	Inserted 'silent'
72		RHD*08.01	Replaced rs-numbers
73		RHD*09.01	Replaced rs-numbers
74		RHD*09.01	Inserted 'silent'
75		RHD*09.01.00	Replaced rs-numbers
76		RHD*09.01.01	Replaced rs-numbers
77		RHD*09.01.01	Inserted 'silent'
78		RHD*09.01.02	Replaced rs-numbers
79		RHD*09.01.02	Inserted 'silent'
80		RHD*09.01.03	Inserted 'silent'
81		RHD*09.02	Replaced rs-numbers
82		RHD*09.02	Inserted 'silent'
83		RHD*09.02.01	Replaced rs-numbers
84		RHD*09.02.01	Inserted 'silent'
85		RHD*09.03	Replaced rs-numbers
86		RHD*09.03.01	Replaced rs-numbers
87		RHD*09.03.01	Inserted 'silent'
88		RHD*09.04	Replaced rs-numbers
89		RHD*09.04	Inserted 'silent'
90		RHD*09.05	Replaced rs-numbers
91		RHD*09.05	Inserted 'silent'
92		RHD*09.06	Replaced rs-numbers

Track of changes		from	to
1	Version	4.0/5.0 180207	v6.0 30-NOV-2021
93		RHD*09.06	corrected nucleotide change
94		RHD*09.06	Added 'silent'
95		RHD*10.05	Replaced rs-numbers
96		RHD*010.00.01	Inserted 'silent'
97		RHD*010.00.02	Inserted 'silent'
98		RHD*010.05.01	Replaced rs-numbers
99		RHD*010.05.01	Inserted 'silent'
100		RHD*10.08	Inserted 'silent'
101		RHD*10.10	Inserted 'silent'
102		RHD*12.01	Replaced rs-numbers
103		RHD*12.02	Replaced rs-numbers
104		RHD*12.03	Replaced rs-numbers
105		RHD*12.04	Replaced rs-numbers
106		RHD*13.01	Replaced rs-numbers
107		RHD*13.01	Inserted 'silent'
108		RHD*13.02	Replaced rs-numbers
109		RHD*16.03	Identified to be same as <i>RHD*13.02</i>
110		RHD*14.01	Replaced rs-numbers
111		RHD*14.01	Inserted 'silent'
112		RHD*14.02	Replaced rs-numbers
113		RHD*14.02	Inserted 'silent'
114		RHD*16.01	Replaced rs-numbers
115		RHD*16.03	Fixed typo from 16.02 to 16.03
116		RHD*30	Replaced rs-numbers
117		RHD*27	changed exon number
118		RHD*28	changed exon number
119		RHD*40	Replaced rs-numbers
120		RHD*41	Replaced rs-numbers
121		RHD*45	Inserted 'silent'
122		RHD*41	Inserted 'silent'
123		RHD*46	Replaced rs-numbers
124		RHD*46	Inserted 'silent'
125		RHD*49	Inserted 'silent'
126		RHD*53	Inserted 'splicing site'
127		RHD*58	Inserted 'silent'
128		RHD*01W.29	Replaced rs-numbers
129		RHD*01W.29	Inserted 'silent'
130		RHD*01W.68	Inserted 'silent'
131		RHD*01EL44	Replaced rs-numbers
132		RHD*01EL44	removed doubled rs-entries
133		RHD*03N.01	removed doubled rs-entries
134		RHD*03N.01	Replaced rs-numbers
135		RHD*01N.02	removed doubled rs-entries
136		RHD*01N.03	removed doubled rs-entries
137		RHD*01N.03	Replaced rs-numbers
138		RHD*01N.04	removed doubled rs-entries
139		RHD*01N.06	removed doubled rs-entries
140		RHD*01N.07	removed doubled rs-entries

Track of changes		from	to
1	Version	4.0/5.0 180207	v6.0 30-NOV-2021
141		RHD*08N.01	Replaced rs-numbers
142		RHD* 01W.157	Added exon number
143		RHD* 01W.158	Added exon number
144		RHD* 01W.159	Added exon number
145		RHD*21	Added exon number
146		RHD*03N.01	Removed from partial RHD. Exclusively present in RHD negative.
147		PMID: 29296782	Updated reference info
148		PMID: 7742554	Updated reference info
149		PMID: 9163603	Updated reference info
150		PMID: 11889898	Updated reference info
151		PMID: 16934070	Updated reference info
152		PMID: 19351380	Updated reference info
153		PMID: 20088832	Updated reference info
154		PMID: 21745213	Updated reference info
155		PMID: 23461862	Updated reference info
156		PMID: 23867180	Updated reference info
157		PMID: 24579654	Updated reference info
158		PMID: 29479713	Updated reference info
159		PMID: 10607679	Updated reference info
160		PMID: 10845894	Updated reference info
161		PMID: 11495631	Updated reference info
162		PMID: 19351380	Updated reference info
163		PMID: 22420413	Updated reference info
164		PMID: 23634715	Updated reference info
165		PMID: 29296782	Updated reference info
166		PMID: 9024488	Updated reference info
167		PMID: 9767746	Updated reference info
168		RHD*01W.1.3	inserted (info Q. Chen)
169	End Version	4.0/5.0 180207	v6.0 30-NOV-2021