

## Names for DI (ISBT 010) Blood Group Alleles

General description: The Diego blood group system consists of 22 antigens carried on a multipass membrane glycoprotein called band 3 (aka AE1; SLC4A1; CD233). It consists of 911 amino acids and both amino and carboxyl termini are predicted to be intracellular. The transmembrane domains of band 3 function as the RBC anion transporter while the long amino terminal region of the protein is critical to maintaining RBC shape integrity through its interaction with the cytoskeleton.

Gene name: *DI*  
 Number of exons: 20  
 Initiation codon: Within exon 1  
 Stop codon: Within exon 20  
 Entrez Gene ID: 6521  
 LRG sequence: NG\_007498.1 (genomic)  
 NM\_000342.3 (transcript)  
 Reference allele: *DI\*02* (shaded)  
 Acceptable: *DI\*B*, or *Di<sup>b</sup>* if inferred by haemagglutination

<i>DI*02</i> encodes Di <sup>b</sup> , Wr <sup>b</sup> , DISK				
Phenotype	Allele name	Nucleotide change	Exon	Predicted amino acid change
DI:1,-2 or Di(a+b-)	<i>DI*01</i> or <i>DI*A</i>	c.2561C>T	19	p.Pro854Leu
DI:-1,2 or Di(a-b+)	<i>DI*02</i> or <i>DI*B</i>			
DI:3,-4 or Wr(a+b-)	<i>DI*02.03</i>	c.1972G>A	16	p.Glu658Lys
DI:5 or Wd(a+)	<i>DI*02.05</i>	c.1669G>A	14	p.Val557Met
DI:6 or Rb(a+)	<i>DI*02.06</i>	c.1643C>T	14	p.Pro548Leu
DI:7 or WARR+	<i>DI*02.07</i>	c.1655C>T	14	p.Thr552Ile
DI:8 or ELO+	<i>DI*02.08</i>	c.1294C>T	12	p.Arg432Trp
DI:9,-22 or Wu+, DISK-	<i>DI*02.09</i>	c.1694G>C	14	p.Gly565Ala [1]
DI:10 or Bp(a+)	<i>DI*02.10</i>	c.1707C>A	14	p.Asn569Lys
DI:11 or Mo(a+)	<i>DI*02.11</i>	c.1967G>A	16	p.Arg656His
DI:12 or Hg(a+)	<i>DI*02.12</i>	c.1966C>T	16	p.Arg656Cys
DI:13 or Vg(a+)	<i>DI*02.13</i>	c.1663T>C	14	p.Tyr555His

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DI:14 or Sw(a+)	<i>DI*02.14.01</i>	c.1937G>A	16	p.Arg646Gln
DI:14 or Sw(a+)	<i>DI*02.14.02</i>	c.1936C>T	16	p.Arg646Trp
DI:15 or BOW+	<i>DI*02.15</i>	c.1681C>T	14	p.Pro561Ser
DI:16 or NFLD+	<i>DI*02.16</i>	c.1287A>T; c.1681C>G	12 14	p.Glu429Asp; p.Pro561Ala
DI:17 or Jn(a+)	<i>DI*02.17</i>	c.1696C>T	14	p.Pro566Ser
DI:18 or KREP+	<i>DI*02.18</i>	c.1696C>G	14	p.Pro566Ala
DI:19 or Tr(a+)	<i>DI*02.19</i>	c.1653G>C	14	p.Lys551Asn
DI:20 or Fr(a+)	<i>DI*02.20</i>	c.1438G>A	13	p.Glu480Lys
DI:21 or SW1+	<i>DI*02.21</i> <i>Identical to</i> <i>DI*02.14.02?</i>	c.1936C>T	16	p.Arg646Trp
Null phenotype				
Di(a-b-)	<i>DI*02N.01</i>	c.1462G>A	13	p.Val488Met [2]

1. Poole J, et al. Novel high incidence antigen in the Diego blood group system (DISK) and clinical significance of anti-DISK. Vox Sang 2010; 99(Suppl.1):54-55.
2. Ribeiro ML, et al. Blood. 2000;96:1602-4.