

## Names for CROM (ISBT 021) Blood Group Alleles

General description: The Cromer blood group system consists of 16 antigens carried on a GPI-linked glycoprotein (DAF, CD55) that consists of 481 amino acids. It has a leader sequence of 34 amino acids and a GPI motif of 28 amino acids, both of which are cleaved from the membrane bound protein.

Gene name: *CROM*  
 Number of exons: 11  
 Initiation codon: Beginning of exon 2  
 Stop codon: Beginning of exon 11  
 Entrez Gene ID: 1604  
 LRG sequence: NG\_007465.1 (genomic)  
 NM\_000574.3 (transcript)  
 Reference allele: *CROM\*01* (shaded)  
 Acceptable: *CR\*A*, or *Cr<sup>a</sup>* if inferred by haemagglutination

Reference allele <i>CROM*01</i> encodes CROM1, CROM2, CROM5, CROM6, CROM7 (IFC), CROM9, CROM10, CROM11, CROM12, CROM 13, CROM14, CROM15, CROM16				
Phenotype	Allele name	Nucleotide change	Exon	Predicted amino acid change †
CROM:1 or Cra+	<i>CROM*01</i> or <i>CR*A</i>			
CROM:-1 or Cr(a-)	<i>CROM*-01</i>	c.679G>C	6	p.Ala227Pro
CROM:3 or Tc(b+)	<i>CROM*01.03</i>	c.155G>T	2	p.Arg52Leu
CROM:4 or Tc(c+)	<i>CROM*01.04</i>	c.155G>C	2	p.Arg52Pro
CROM:-5 or Dr(a-)	<i>CROM*01.-05</i>	c.596C>T	5	p.Ser199Leu
CROM:-6 or Es(a-)	<i>CROM*01.-06</i>	c.239T>A	2	p.Ile80Asn
CROM:8 or WES(a+)	<i>CROM*01.08</i>	c.245T>G	2	p.Leu82Arg
CROM:-10 or UMC-	<i>CROM*01.-10</i>	c.749C>T	6	p.Thr250Met
CROM:-11 or GUTI-	<i>CROM*01.-11</i>	c.719G>A	6	p.Arg240His
CROM:-12 or SERF-	<i>CROM*01.-12</i>	c.647C>T	5	p.Pro216Leu

CROM:–13 or ZENA–	<i>CROM*01.–13</i>	c.726T>G	6	p.His242Gln
CROM:–14 or CROV–	<i>CROM*01.–14</i>	c.466G>A	3	p.Glu156Lys
CROM:–15 or CRAM–	<i>CROM*01.–15</i>	c.740A>G	6	p.Gln247Arg
CROM:–16 or CROZ–	<i>CROM*01.–16</i>	c.389G>A	3	p.Arg130His [1]
Null phenotypes				
CROM:–7 or Inab	<i>CROM*01N.01</i>	c.261G>A	2	p.Trp87Ter
CROM:–7 or Inab	<i>CROM*01N.02</i>	c.263C>A	2	p.Ser88Ter
CROM:–7 or Inab	<i>CROM*01N.03</i>	c.508C>T	4	p.Arg170Ter
CROM:–7 or Inab	<i>CROM*01N.04</i>	c.366_367insA	3	p.Thr123Asnfs*6 [1]

† change from historical counting of #1 as Asp of the mature (membrane-bound protein); thus, all amino acid numbers have increased by 34.

[1] Karamatic Crew V, et al. Two unusual cases within the Cromer blood group system: I)a novel high incidence antigen Croz and II)a novel molecular basis of Inab phenotype. *Transfus Med* 2010; 20(suppl.1):12.