

## Names for CO (ISBT 015) Blood Group Alleles

General description: The Colton blood group system consists of four antigens carried on a multipass membrane glycoprotein called aquaporin 1 (AQP1; aka Channel-forming integral protein). It consists of 269 amino acids and both amino and carboxyl termini are predicted to be intracellular.

Gene name: *CO*  
 Number of exons: 4  
 Initiation codon: Within exon 1  
 Stop codon: Within exon 4  
 Entrez Gene ID: 358  
 LRG sequence: NG\_007475.1 (genomic)  
 NM\_198098.2 (transcript)  
 Reference allele: *CO\*01* (shaded)  
 Acceptable: *CO\*A* or *Co<sup>a</sup>* if inferred by haemagglutination

Reference allele <i>CO*01</i> encodes CO1, CO3, CO4				
Phenotype	Allele name	Nucleotide change	Exon	Predicted amino acid change
CO:1 or Co(a+)	<i>CO*01.01</i> or <i>CO*A</i>			
CO:2 or Co(b+)	<i>CO*02</i> or <i>CO*B</i>	c.134C>T	1	p.Ala45Val
CO:–1,–2,3,–4	<i>CO*01.–04</i>	c.140A>G	1	p.Gln47Arg
Null phenotypes				
CO:–1,–2 or Co(a–b–)	<i>CO*N.01</i>	del all or part exon 1	1	p.0
CO:–1,–2 or Co(a–b–)	<i>CO*N.02</i>	c.308_309insT	1	p.Ala105Glyfs*24
CO:–1,–2 or Co(a–b–)	<i>CO*01N.03</i>	c.576C>A	3	p.Asn192Lys
CO:–1,–2 or Co(a–b–)	<i>CO*01N.04</i>	c.232delG	1	p.Ala78Leufs*42
CO:–1,–2 or Co(a–b–)	<i>CO*01N.05</i>	c.112C>T	1	p.Pro38Ser [1]
CO:–1,–2 or Co(a–b–)	<i>CO*01N.06</i>	c.601delG	3	p.Val201Ter [2]
Mod phenotype				
CO:–1,–2,W3 or Co(a–b–) Co3+ <sup>w</sup>	<i>CO*M.01</i>	c.113C>T	1	p.Pro38Leu

1. Karpasitou K, et al. A silenced allele in the Colton blood group system. *Vox Sang.* 2010 Aug 1;99(2):158-62.
2. Vege S, et al. *Immunohematology* in press