

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

### Intro

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. The LRG\_808 (NG\_007475.2) includes more than one gene; the AQP1 gene encoding for the CO blood group antigens is located in the range 63301 to 77124.

Gene name: *CO*  
Number of exons: 4  
Initiation codon: Within exon 1  
Stop codon: Within exon 4  
Entrez Gene ID: 358  
LRG: LRG\_808 (NG\_007475.2)  
LRG sequence: NG\_007475.2 (genomic)  
NM\_198098.2 (transcript)

Reference allele: *CO\*01* (shaded)  
Acceptable: *CO\*A* or *Co<sup>a</sup>* if inferred by haemagglutination  
Reference allele: CO1, CO3, CO4  
*CO\*01* encodes:

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number
CO:1 or Co(a+)	<b>CO*01.01 or CO*A</b>						
CO:2 or Co(b+)	<b>CO*02.01 or CO*B</b>	c.134C>T	1	p.Ala45Val	7521882		rs28362692
CO:2 or Co(b+)	<b>CO*02.02</b>	c.134C>A	1	p.Ala45Thr	20492605		
CO:-1,-2,3,-4	<b>CO*01.-04</b>	c.140A>G	1	p.Gln47Arg	20492605		rs377506522
<b>Null phenotypes</b>							
CO:-1,-2 or Co(a-b-)	<b>CO*N.01</b>	del all or part exon 1	1	p.0	7521540		
CO:-1,-2 or Co(a-b-)	<b>CO*N.02</b>	c.308_309insT	1	p.Ala105Glyfs*24	7521540		
CO:-1,-2 or Co(a-b-)	<b>CO*01N.03</b>	c.576C>A	3	p.Asn192Lys	10383192		rs755480059
CO:-1,-2 or Co(a-b-)	<b>CO*01N.04</b>	c.232delG	1	p.Ala78Leufs*42	11606828	AJ307585	
CO:-1,-2 or Co(a-b-)	<b>CO*01N.05</b>	c.112C>T	1	p.Pro38Ser	20345514	AM992149	rs1200444151
CO:-1,-2 or Co(a-b-)	<b>CO*01N.06</b>	c.601delG	3	p.Val201Ter	22348807		rs546809019
<b>Mod phenotype</b>							
CO:-1,-2,W3 or Co(a-b-) Co3+w	<b>CO*M.01</b>	c.113C>T	1	p.Pro38Leu	7521540		rs104894004

## References

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

Abstract (2) Vege S, et al. *Immunohematology* in press

## Track of changes

		<b>from</b>	<b>to</b>
<b>1</b>	<b>Version</b>	<b>v3.0 18th April 2019</b>	<b>v4.0 31-MAR-2022</b>
<b>2</b>	Author	created: New York Bloodcenter	Franz Wagner
<b>3</b>	Reviewer	reviewed: n.a.	WA Flegel
<b>4</b>	General	Word version	First Excel map version. Spread-sheets 'Intro', 'Allele Table', 'References' and 'Versioning' created.
<b>5</b>	Intro	LRG added	LRG added
<b>6</b>	Intro	General	Added infotext according LRG_808
<b>7</b>	Allele table	added rs-numbers	rs28362692, rs377506522, rs755480059, rs1200444151, rs546809019, rs104894004
<b>8</b>	<b>End Version</b>	<b>v3.0 18th April 2019</b>	<b>v4.0 31-MAR-2022</b>