

Names for YT (ISBT 011) Blood Group Alleles

General description: The Yt blood group system consists of 5 antigens carried on a membrane bound GPI-linked glycoprotein acetylcholinesterase (AChE) that consists of 617 amino acids. It has a leader sequence of 31 amino acids and a carboxyl-terminal GPI motif of 29 amino acids, both of which are cleaved from the mature erythrocyte isoform AChE-E. The protein is encoded by *ACHE* (or *YT*, acceptable if analysis is to predict a blood group antigen).

Gene name: *ACHE* (*YT*)

Number of exons: 6

Initiation codon: Beginning of exon 2

Stop codon: Within exon 6 (exon 5 in *ACHE-E*)

Entrez Gene ID: 43

LRG sequence 804: NG_007474.2 (genomic)

NM_001302621.1 (transcript)

NP_001289550.1 (protein)

Reference allele: *YT*01* (shaded)

Acceptable: *YT*A*, or *Yt^a* if inferred by haemagglutination

Reference allele <i>YT*01</i> encodes YT1				
Phenotype	Allele name	Nucleotide change	Exon	Predicted amino acid change
YT:1 or Yt(a+)	<i>YT*01</i> or <i>YT*A</i>			
YT:2 or Yt(b+)	<i>YT*02</i> or <i>YT*B</i>	c.1057C>A	2	p.His353Asn
YT:-3 or YTEG-	<i>YT*01.-03</i>	c.266G>A	2	p. Gly89Glu [1]
YT:-4 or YTLI-	<i>YT*01.-04</i>	c.169G>A	2	p.Gly57Arg [2]
YT:-5 or YTOT-	<i>YT*01.-05</i>	c.101G>A	2	p.Arg34Gln [2]

- 1 Laundry R, Karamatic Crew V, Davies H, et al.: A novel high frequency antigen in the Yt blood group system. *Transfusion Medicine* 2017; 27 (Suppl. 2): 42-3.
- 2 Karamatic Crew V, Laundry R, Walser P, et al.: Serological and molecular characterisation of two novel high frequency antigens in the Yt blood group system. *Vox Sang* 2018; 113 (Suppl. 1): 63.