Names for YT (ISBT 011) Blood Group Alleles

Intro

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: 804
LRG sequence: NG_007474.2 (genomic)
NM_001302621.1 (transcript)
NP_001289550.1 (protein)
Reference allele: YT*01 (shaded)
Acceptable: YT*A, or Yt if inferred by haemagglutination
Antithetical antigens: [YT1 YT2]
## YT blood group alleles

<table>
<thead>
<tr>
<th>Phenotype</th>
<th>Allele name</th>
<th>Nucleotide change</th>
<th>Exon</th>
<th>Predicted amino acid change</th>
<th>(Reference No.) PMID</th>
<th>Accession number</th>
<th>rs number</th>
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</thead>
<tbody>
<tr>
<td>YT:1,-2 or Yt(a+b−)</td>
<td>YT<em>01 or YT</em>A</td>
<td></td>
<td></td>
<td></td>
<td>(1), PMID: 8488842</td>
<td>M55040</td>
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<tr>
<td>YT:-1,2 or Yt(a−b+)</td>
<td>YT<em>02 or YT</em>B</td>
<td>c.1057C&gt;A</td>
<td>2</td>
<td>p.His353Asn</td>
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<td>n.a.</td>
<td>rs1799805</td>
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<td>YT:-3 or YTEG−</td>
<td>YT*01.-03</td>
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<td>p.Gly89Glu</td>
<td>(2), Abstract</td>
<td>MF194018</td>
<td>rs114367422</td>
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<td>YT:-4 or YTLI−</td>
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<td>(3), Abstract</td>
<td>MH253764</td>
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References

1. PMID: 8488842

2. Abstract

3. Abstract
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<tr>
<th>Track of changes</th>
<th>from v6.0 8th April 2019</th>
<th>to v7.0 25-FEB-2020</th>
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<tr>
<td>Created:</td>
<td>Vered Yahalom, April 2019</td>
<td>Vered Yahalom, December 2019</td>
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<tr>
<td>Reviewed:</td>
<td>Vanja Karamatic Crew &amp; Nicole Thornton, April 2019</td>
<td>Nicole Thornton &amp; Vanja Karamatic Crew, January 2020</td>
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General

- First Excel map version. Spread-sheets "Intro", "Allele Table", "References", and "Versioning" created.
- [YT1 YT2]

Intro

- Antithetical alleles line added
- n.a.

Allele Table

- Table column and header additions
- n.a.

References

- PMID added
- Reference added for YT polymorphism
- 8488842

End of changes

- from v6.0 8th April 2019
- to v7.0 25-FEB-2020