

Names for IN (ISBT 023) Blood Group Alleles

Intro

General description: The IN blood group system consists of 6 antigens carried on a glycoprotein (CD44) of 742 amino acids. The protein is found in many different tissues and multiple tissue-specific isoforms of CD44 exist. The haemopoietic form is approximately 81kDa.

Gene name: *IN*
Number of exons: 18
Initiation codon: Beginning of exon 1
Stop codon: End of exon 18
Entrez Gene ID: 960
LRG: LRG_815
LRG sequence: NG_008937.1 (genomic)
NM_000610.4 (transcript)

Reference allele: *IN*02* (shaded)
Acceptable: *IN*B*, or *In^b* if inferred by haemagglutination

Reference allele *In^b*, INFI, INJA, INRA and INSL
*IN*02* encodes:

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number
In(a+b-)	<i>IN*01</i> or <i>IN*A</i>	c.137G>C	2	p.Arg46Pro	PMID: 8636151		
In(a-b+)	<i>IN*02</i> or <i>IN*B</i>				PMID: 8636151	M59040	
IN:-3 or INFI-	<i>IN*02.-03</i>	c.255C>G	3	p.His85Gln	PMID: 17581168		
IN:-4 or INJA-	<i>IN*02.-04</i>	c.488C>A	5	p.Thr163Lys	PMID: 17581168		
IN: -5 or INRA-	<i>IN*02.-05</i>	c.449G>A	5	p.Arg150His	PMID: 28970678	KX639826	
IN: -6 or INSL-	<i>IN*02.-06</i>	c.276C>A	3	p.His92Gln	(2), Abstract		

References

- PMID 8636151 Telen MJ, Udani M, Washington MK, Levesque MC, Lloyd E, Rao N. Cite Share. A blood group-related polymorphism of CD44 abolishes a hyaluronan-binding consensus sequence without preventing hyaluronan binding. *J Biol Chem.* 1996 Mar 22;271(12):7147-53.
- PMID 17581168 Poole J, Tilley L, Warke N, Spring FA, Overbeeke MA, van der Mark-Zoet JA, Ahrens N, Armstrong D, Williams M, Daniels G. Cite Share. Two missense mutations in the CD44 gene encode two new antigens of the Indian blood group system. *Transfusion.* 2007 Jul;47(7):1306-11.
- Abstract (2) Henny C, Thornton N, Lejon Crottet S, et al.: An antibody against a novel high incidence antigen in the Indian blood group system. *Vox Sang* 2018; 113(Suppl 1):231
- PMID 28970678 Joshi SR, Sheladiya A, Mendapara-Dobariya KV. INRA, a new high-frequency antigen in the INDIAN (IN023) blood group system. *Asian J Transfus Sci.* 2017 Jul-Dec;11(2):121-123. doi: 10.4103/0973-6247.214337. PMID: 28970678; PMCID: PMC5613417.

ack of changes

	from	to
Version	v6.1 22nd August 2019	v7.0 31-MAR-2022
Author	created New York Blood Center, 22nd August 2019	Yoshihiko Tani, February 2022
Reviewer	reviewed n.a.	Frederik Banch Clausen, February 2022
General	Word version	First Excel map version. Spread-sheets 'Intro', 'Allele Table', 'References' and 'Versioning' created.
References	Abstract removed	removed Abstract (1)
References	Added Reference	Added PMID 28970678
End Version	v6.1 22nd August 2019	v7.0 31-MAR-2022

Track of changes

		from	to
1	Version	v5.0 170105	v6.1 22nd August 2019
2	Author	created	New York Blood Center, 5th January 2017
3	Reviewer	reviewed	n.a.
4	General	Word version	Word version
5	Intro	LRG added	LRG added
6	Allele	Allele added	<i>IN*02.-06</i>
7	End Version	v5.0 170105	v6.1 22nd August 2019