

Names for SC (ISBT 013) Blood Group Alleles

Intro

General description: The Scianna blood group system consists of 9 antigens carried on a single pass type I membrane glycoprotein (ERMAP) with 1 IgSF domain and an intracellular B30.2 domain. The 475 amino acid ERMAP protein is encoded by exons 3 to 12 from either a 3,485 bp (NM_001017922.1) or a 3,381 bp (NM_018538.3) mRNA transcript. There is a leader sequence of 29 amino acids, which is cleaved from the membrane bound protein.

Gene name: *ERMAP*

Number of exons: 12

Initiation codon: Within exon 3. The first 2 exons are non-coding. The sixth nucleotide in exon 3 represents the 'A' of the start codon of the coding sequence (CDS).

Stop codon: Beginning of exon 12

Entrez Gene ID: 114625

LRG: LRG_806

LRG sequence: NG_008749.1 (genomic)

NM_001017922.2 (transcript)

NP_001017922.1 (protein)

Reference allele: *SC*01* (shaded)

Reference allele
*SC*01* encodes: SC1, SC3, SC5, SC6, SC7, SC8, SC9

Antithetical antigens: SC1 and SC2 are antithetical. This list is complete.
There are no other known antithetical antigens in this system at this time.

Phenotype	Allele name	Nucleotide change	Exon Intron	Predicted amino acid change	(Reference No.) PMID	Accession number	rs number
SC:1 or Sc1+	SC*01				PMID: 27612015	KX265235	
SC:2 or Sc2+	SC*02	c.169G>A	4	p.Gly57Arg	PMID: 12393480	AY644424	rs56025238
SC:4 or Rd+	SC*01.04	c.178C>G	4	p.Pro60Ala	PMID: 12393480	AJ505044	rs56136737
SC:-5 or STAR-	SC*01.-05	c.139G>A	4	p.Glu47Lys	PMID: 15660834	AY644424.1	rs56047316
SC:-6 or SCER-	SC*01.-06	c.242G>A	4	p.Arg81Gln	PMID: 16371048	not available	rs368064875
SC:-7 or SCAN-	SC*01.-07	c.103G>A	4	p.Gly35Ser	PMID: 16371048	not available	rs146429994
SC:-8 or SCAR-	SC*01.-08	c.424C>G	4	p.Gln142Glu	PMID: 33098316	MK933825	pending
SC:-9 or SCAC-	SC*01.-09	c.217C>T c.219C>T	4	p.Arg73Cys	(1), Abstract	MW427218	pending
Null phenotypes							
SC:-3 or SC:-1-2-3	SC*01N.01	c.307_308delGA	4	p.Asp103Cysfs*12	PMID: 12393480	AJ505028	rs387906265
SC:-3 or SC:-1-2-3	SC*01N.02	c.994C>T	12	p.Arg332Ter	PMID: 16371048	JF828030.1	rs1056261813

References

- PMID 12393480 Franz F Wagner, Joyce Poole, Willy A Flegel.
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- PMID 15660834 Kim Hue-Roye, Asok Chaudhuri, Randall W Velliquette, Susan Fetics, Rebecca Thomas, Mary Balk, Franz F Wagner, William A Flegel, Marion E Reid.
STAR: a novel high-prevalence antigen in the Scianna blood group system.
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doi: 10.1111/j.1537-2995.2004.04226.x.
- PMID 16371048 Willy A Flegel, Qing Chen, Marion E Reid, Judy Martin, Linda A Orsini, Joyce Poole, Marilyn K Moulds, Franz F Wagner.
SCER and SCAN: two novel high-prevalence antigens in the Scianna blood group system.
Transfusion. 2005 Dec;45(12):1940-4.
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- PMID 33098316 Kshitij Srivastava, Jasem Albasri, Omar M Alsuhaibani, Hassan A Aljaseem, Marina U Bueno, Tania Antonacci, Donald R Branch, Gregory A Denomme, Willy A Flegel.
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- Abstract (1) Roser Hoffman, Anna Burgos, Kristin Vail, et al.
A Decade-Long Search Finds a New High-Prevalence Antigen in the Sc System.
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- PMID 27612015 Kshitij Srivastava, Eunah Lee, Eric Owens, Pairaya Rujirojindakul, Willy A Flegel.
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Track of changes		from version	to version
1	Version	v3.0 160623	v4.0 30-JUN-2021
2	Author created:	Flegel WA v3.0 160623	Flegel WA, June 2021
3	Review reviewed:	n.a.	unreviewed
4	General	Last word version publised on ISBT website	First Excel map version. Spread-sheets "Intro", "Allele Table", "References", and "Versioning" created.
5	End Version	v3.0 160623	v4.0 30-JUN-2021