

Names for JK (ISBT 009) Blood Group Alleles

General description: The Kidd blood group system consists of 3 antigens carried on a multipass type 3 membrane glycoprotein that functions as the primary urea transporter on RBCs. It consists of 389 amino acids and has 10 membrane-spanning domains.

Gene name: *SLC14A1*
 Number of exons: 11
 Entrez Gene ID: 6563
 Initiation codon: Beginning of exon 4
 Stop codon: Exon 11
 GenBank #: NG_011775.3 (genomic)
 NM_015865.6 (transcript)
 Reference allele: *JK*02* (shaded)
 Acceptable: *JK*B*, or *Jk^b* if inferred by haemagglutination

Reference allele <i>JK*02</i> encodes JK2, JK3				
Phenotype	Allele name	Nucleotide change	Exon	Predicted amino acid change
JK:1 or Jk(a+)	<i>JK*01</i> or <i>JK*A</i>	c.838A>G	9	p.Asn280Asp
JK:2 or Jk(b+)	<i>JK*02</i> or <i>JK*B</i>			
Weak phenotypes				
Jk(a+ ^w)	<i>JK*01W.01</i>	c.130G>A	4	p.Glu44Lys
Jk(a+ ^w)	<i>JK*01W.02</i>	c.511T>C	7	p.Trp171Arg [1]
Jk(a+ ^w)	<i>JK*01W.03</i>	c.28G>A	4	p.Val10Met [2]
Jk(a+ ^w)	<i>JK*01W.04</i>	c.226G>A	5	p.Val76Ile [2]
Jk(a+ ^w)	<i>JK*01W.05</i>	c.742G>A	8	p.Ala248Thr
Jk(b+ ^w)	<i>JK*02W.01</i>	c.548C>T	7	p.Ala183Val [1]
Jk(b+ ^w)	<i>JK*02W.02</i>	c.718T>A	8	p.Trp240Arg [3]
Null phenotypes				
JK:–3 or Jk(a–b–)	<i>JK*01N.01</i>	c.1-?_341+?del	Del 4 & 5	p.0
JK:–3 or Jk(a–b–)	<i>JK*01N.02</i>	c.202C>T	5	p.Gln68Ter
JK:–3 or Jk(a–b–)	<i>JK*01N.03</i>	c.582C>G	7	p.Tyr194Ter
JK:–3 or Jk(a–b–)	<i>JK*01N.04</i>	c.956C>T	10	p.Thr319Met
JK:–3 or Jk(a–b–)	<i>JK*01N.05</i>	c.561C>A	7	p.Tyr187Ter

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JK:–3 or Jk(a–b–)	<i>JK*01N.06</i>	c.342-1G>A	Intron 5	p.Arg114_Thr156del; Alternative splicing
JK:–3 or Jk(a–b–)	<i>JK*01N.07</i>	c.723delA	8	p.Gly243Alafs*20 [4]
JK:–3 or Jk(a–b–)	<i>JK*01N.08</i>	c.866A>G	9	p.Asn289Ser [5]
JK:–3 or Jk(a–b–)	<i>JK*01N.09</i>	c.27_50del	4	p.Val10_Arg17del
JK:–3 or Jk(a–b–)	<i>JK*01N.10</i>	c.811+5G>A	Intron 8	p.Ala270fs*?; Alternative splicing
JK:–3 or Jk(a–b–)	<i>JK*02N.01</i>	c.342-1G>A	Intron 5	p.Arg114_Thr156del; Alternative splicing
JK:–3 or Jk(a–b–)	<i>JK*02N.02</i>	c.342-1G>C	Intron 5	p.Arg114_Thr156del; Alternative splicing
JK:–3 or Jk(a–b–)	<i>JK*02N.03</i>	c.222C>A	5	p.Asn74Lys
JK:–3 or Jk(a–b–)	<i>JK*02N.04</i>	c.663+1G>T	Intron 7	p.Leu223fs*?; Alternative splicing
JK:–3 or Jk(a–b–)	<i>JK*02N.05</i>	c.723delA	8	p.Gly243Alafs*20 Identical to JK*01N07? (c.838A>G is located past termination)
JK:–3 or Jk(a–b–)	<i>JK*02N.06</i>	c.871T>C	9	p.Ser291Pro
JK:–3 or Jk(a–b–)	<i>JK*02N.07</i>	c.896G>A	9	p.Gly299Glu
JK:–3 or Jk(a–b–)	<i>JK*02N.08</i>	c.956C>T	10	p.Thr319Met
JK:–3 or Jk(a–b–)	<i>JK*02N.09</i>	c.191G>A	4	p.Arg64Gln
JK:–3 or Jk(a–b–)	<i>JK*02N.10</i>	c.194G>A	4	p.Gly65Asp
JK:–3 or Jk(a–b–)	<i>JK*02N.11</i>	c.499A>G; c.512G>A	7	p.Met167Val; p.Trp171Ter
JK:–3 or Jk(a–b–)	<i>JK*02N.12</i>	c.437T>C; c.499A>G	6 7	p.Leu146Pro; p.Met167Val
JK:–3 or Jk(a–b–)	<i>JK*02N.13</i>	c.499A>G; c.536C>G	7	p.Met167Val; p.Pro179Arg
JK:–3 or Jk(a–b–)	<i>JK*02N.14</i>	c.896G>A	9	p.Gly299Glu Identical to JK*02N.07?

References for variation not in the dbRBC:

1. Whorley T et al. Transfusion 2009;49(Suppl):48A.
2. Deal, T et al. Transfusion 2011;51(Suppl):24-25A
3. St-Louis, M et al Transfusion 2012 :52(Suppl) :160-161A
4. Crews, WS et al. Transfusion 2013;53(Suppl):164A

5. Moulds JM. Personal communication 2012-08-22