

Guidelines for the Blood Transfusion Services

15.5: External quality assurance

<http://www.transfusionguidelines.org/red-book/chapter-15-molecular-typing-for-red-cell-antigens/15-5-external-quality-assurance>

15.5: External quality assurance

It is important that any laboratory performing this testing for clinical purposes participates in some sort of external quality assurance scheme. There is a National External Quality Assurance Scheme (NEQAS) available for molecular blood grouping. The International Society of Blood Transfusion (ISBT) organises workshops every 2 years in which DNA samples from 'patients' and plasma from D negative pregnant women are distributed. In addition, it may be possible to set up sampleexchange schemes with other laboratories carrying out similar work.

Table 15.1 Some blood group polymorphisms and associated gene sequence changes

System	Gene	Antigens	Molecular test
MNS	<i>GYPA</i>	M/N	59 C/T, 71 G/A
Rh	<i>RHD</i>	D	Presence/absence
	<i>RHCE</i>	C	Intron 2 insertion
		c	307 C
		E/e	676 G/C
Lutheran	<i>LU</i> or <i>BCAM</i>	Lu ^a /Lu ^b	230 A/G
Kell	<i>KEL</i>	K/k	578 T/C
		Kp ^a /Kp ^b	841 T/C
		Js ^a /Js ^b	1790 C/T
Duffy	<i>FY</i> or <i>ACKR1</i>	Fy ^a /Fy ^b	125 G/A
		Fy-null	67t>c
Kidd	<i>JK</i> or <i>SLC14A1</i>	Jk ^a /Jk ^b	838 G/A
Diego	<i>DI</i> or <i>SLC4A1</i>	Di ^a /Di ^b	2561 T/C
Yt	<i>YT</i> or <i>ACHE</i>	Yt ^a /Yt ^b	1057 C/A
Dombrock	<i>DO</i> or <i>ART4</i>	Do ^a /Do ^b	793 A/G
Colton	<i>CO</i> or <i>AQP1</i>	Co ^a /Co ^b	134 C/T