

GLOBAL ANTIGEN FREQUENCIES

ABO



Antigen	ISBT	Caucasian	Black	Arabic	Indian	Chinese	Japanese	Brazilian
A	ABO1	43% ¹	27% ¹	27% ¹¹	21% ³	28% ⁴	39% ⁵	34% ^{7,8}
B	ABO2	9% ¹	20% ¹	16% ¹¹	40% ³	29% ⁴	22% ⁵	14% ^{7,8}
AB	ABO3	4% ¹	4% ¹	4% ¹¹	9% ³	9% ⁴	10% ⁵	3% ^{7,8}
O*		44% ¹	49% ¹	54% ¹¹	29% ³	34% ⁴	29% ⁵	49% ^{7,8}
O _h **		1/million ¹			1/10,000 ¹		1/150,000 ¹	

Rh



Antigen	ISBT	Caucasian	Black	Arabic	Indian	Chinese	Japanese	Brazilian
D	RH1	85% ¹	92% ¹	89% ¹¹	96% ³	>99% ²	>99% ²	92% ^{7,8}
C	RH2	68% ¹	27% ¹	64% ¹¹	87% ⁹	92% ²	88% ²	55% ^{7,8}
C ^w	RH8	2% ¹	1% ¹			0% ²	0% ²	1% ^{7,8}
E	RH3	29% ¹	22% ¹	30% ¹¹	20% ⁹	40% ²	51% ²	29% ^{7,8}
c	RH4	80% ¹	96% ¹	79% ¹¹	58% ⁹	48% ²	57% ²	83% ^{7,8}
e	RH5	98% ¹	98% ¹	95% ¹¹	98% ⁹	94% ²	91% ²	92% ^{7,8}

Kell



Antigen	ISBT	Caucasian	Black	Arabic	Indian	Chinese	Japanese	Brazilian
K	KEL1	9% ¹	2% ¹	20% ¹¹	4% ⁹	<0.01% ²	<0.01% ²	5% ^{7,8}
k	KEL2	>99% ¹	>99% ¹	99% ¹¹	>99.9% ⁹	>99% ²	>99% ²	95% ^{7,8}
Kp ^a	KEL3	2% ¹	<0.01% ¹		1% ⁶	<0.01% ²	<0.01% ²	1% ^{7,8}
Kp ^b	KEL4	>99% ¹	>99% ¹		>99% ⁶	>99% ²	>99% ²	>99% ^{7,8}
Js ^a	KEL6	0.01% ¹	20% ¹					4% ^{7,8}
Js ^b	KEL7	>99% ¹	99% ¹			>99% ²	>99% ²	>99% ^{7,8}

Duffy



Antigen	ISBT	Caucasian	Black	Arabic	Indian	Chinese	Japanese	Brazilian
Fy ^a	FY1	66% ¹	10% ¹	36% ¹¹	87% ⁹	>99% ²	99% ²	39% ^{7,8}
Fy ^b	FY2	83% ¹	23% ¹	40% ¹¹	58% ⁹	9% ²	18% ²	50% ^{7,8}
Fy3	FY3	>99% ¹	32% ¹	65% ¹¹	>99% ⁹	>99% ¹		70% ^{7,8}

Kidd



Antigen	ISBT	Caucasian	Black	Arabic	Indian	Chinese	Japanese	Brazilian
Jk ^a	JK1	77% ¹	92% ¹	58% ¹¹	81% ⁹	69% ²	67% ²	93% ^{7,8}
Jk ^b	JK2	74% ¹	49% ¹	50% ¹¹	68% ⁹	74% ²	82% ²	54% ^{7,8}
Jk3	JK3	>99% ¹	>99% ¹		>99% ⁹			>99% ^{7,8}

Diego



Antigen	ISBT	Caucasian	Black	Arabic	Indian	Chinese	Japanese	Brazilian
Dj ^a	DI1	0.01% ¹				4% ²	9% ²	3% ^{7,8}
Dj ^b	DI2	>99% ¹	>99% ¹					>99% ^{7,8}
Wr ^a	DI3	<0.01% ¹	0% ¹⁰					<0.01% ^{7,8}
Wr ^b	DI4	>99% ¹						>99% ^{7,8}

Lewis



Antigen	ISBT	Caucasian	Black	Arabic	Indian	Chinese	Japanese	Brazilian
Le ^a	LE1	22% ¹	23% ¹	19% ¹¹	21% ⁶	24% ²	19% ²	19% ^{7,8}
Le ^b	LE2	72% ¹	55% ¹	72% ¹¹	61% ⁶	77% ²	72% ²	65% ^{7,8}

MNS



Antigen	ISBT	Caucasian	Black	Arabic	Indian	Chinese	Japanese	Brazilian
M	MNS1	78% ¹	74% ¹	96% ¹¹	89% ⁹	81% ²	79% ²	83% ^{7,8}
N	MNS2	72% ¹	75% ¹	45% ¹¹	65% ⁹	67% ²	67% ²	71% ^{7,8}
S	MNS3	55% ¹	31% ¹	65% ¹¹	55% ⁹	7% ²	10% ²	45% ^{7,8}
s	MNS4	89% ¹	93% ¹	78% ¹¹	89% ⁹	>99% ²	>99% ²	93% ^{7,8}
U	MNS5	>99% ¹	99% ¹		>99.9% ⁹	>99% ²	>99% ²	>99% ^{7,8}
Mi ^{a***}	MNS7	<0.01% ¹²	<0.01% ¹²			6% ¹²	<0.01% ¹²	

*This data refers to group O

**This data refers to Bombay which is the absence of the H antigen

*** The term 'Miltenberger' is often used to describe a complex family of hybrid glycoprotein phenotypes including GPMur, GPHut, GPHil, GPHop, etc. For more information, please refer to reference #12

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The antigen frequencies cited in this poster have been gathered from the references listed above. If you have any studies or documentation that support antigen frequencies where data is missing, please contact your local Immucor Representative with that information for inclusion in a future revision. We appreciate your partnership!