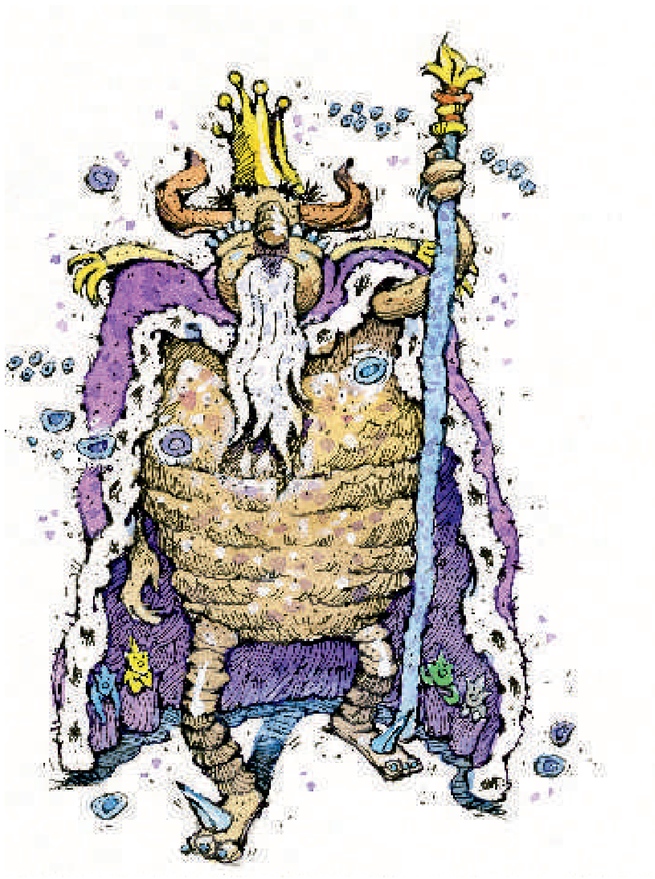
BLOOD GROUP KINGDOM

THE LABORATORY'S MOST WANTED

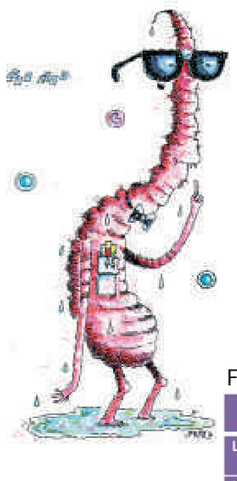


ABO

ABO is the King of all blood groups and leader of the Blood Group Kingdom. Rh tries to claim the leader position but the crown belongs to ABO. It is the the first to be discovered of all blood groups and reigns over transfusion reactions. King ABO is the first blood group to develop and is powerful and destructive because it is everywhere. If you are looking for King ABO be sure to check colder weather, it does not like warmer climates. Also, this King can be tricky… don't be fooled if you don't see its antigens, its antibodies will most certainly be there.

Frequency

	Caucasians	Blacks	Indian	Chinese	Japanese	Comments
A	43%	27%	21%	28%	40%	0% in South American Indians
B	9%	20%	40%	29%	20%	
AB	4%	4%	9%	9%	10%	
O	44%	49%	29%	34%	30%	



Rh

Meet Rhesus, the grand poo-bah among blood systems. The Rhesus clan considers itself very important, and for good reason. It's the largest of the blood systems, with more than 46 antigen members. And it holds the seat of honor in the bloodstream as part of the red cell membrane. But the real reason Rhesus claims bragging rights as the leader of the blood system is its deadly power. As little as 0.03 ml of Rh positive red cells can create antibodies in an Rh negative patient, making Rhesus the major culprit in Hemolytic Disease of the Newborn (HDN).

Frequency

		Caucasians	Blacks	Indian	Chinese	Japanese	Comments
D	RH1	85%	92%	94%	>99%	>99%	
C	RH2	68%	27%	87%	92%	88%	
E	RH3	29%	22%	20%	39%	51%	
c	RH4	80%	96%	58%	47%	57%	
e	RH5	98%	98%	98%	96%	91%	
Cw	RH8	2%	1%		0.1%	0	

Lewis

Lewis tries very hard to be "one of the gang," but really isn't a blood system at all. Any old mucus cell can secrete Lewis, even the salivary gland. It hangs out in the blood, trying to look tough, but no one really pays much attention.

Frequency

		Caucasians	Blacks	Indian	Chinese	Japanese	Comments
Lea	LE1	22%	23%	21%	24%	19%	
Leb	LE2	55%	72%	61%	77%	72%	

Duffy

The party animal of the blood systems, Duffy likes company. It can usually be found mixing sociably with other antibodies. Something of a snob, Duffy prefers American or European hosts. It almost never visits Africa or other tropical countries, but that's good -- it can make patients more susceptible to certain types of malaria.

Frequency

		Caucasians	Blacks	Indian	Chinese	Japanese	Comments
Fya	FY1	68%	13%	87%	>99%	99%	
Fyb	FY2	80%	23%	58%	9%	19%	

MNS

The grandaddy of the blood systems, MNS was first discovered in 1927. It used to be a quiet fellow, but technological advances in the blood lab have opened up a new career -- as the tattle-tale in paternity tests.

Frequency

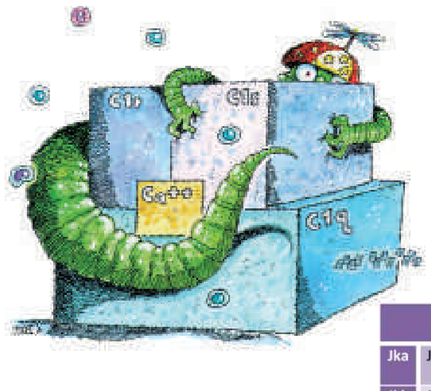
		Caucasians	Blacks	Indian	Chinese	Japanese	Comments
M	MNS1	78%	74%	89%	80%	79%	
N	MNS2	70%	75%	65%	67%	67%	
S	MNS3	52%	30%	55%	9%	10%	
s	MNS4	90%	92%	89%	>99%	>99%	

Kell

The meanest, nastiest blood system around is undeniably Kell. Second only to Rhesus in strength, it is 20 times more immunogenic than any other blood group antigen (with the exception of D). Researchers at the Mayo Clinic accuse Kell of causing 21 percent of hemolytic transfusion reactions during a ten year study. With a record like that, Kell is one to be watched.

Frequency

		Caucasians	Blacks	Indians	Chinese	Japanese	
K	KEL1	9%	2%	3.5%	0%	0%	Higher frequency in Arabs (up to 25%)
k	KEL2	99.8%	99.9%	99.9%	100%	100%	
Kpa	KEL3	2%	<0.01%	1%	0%	0%	
Kpb	KEL4	100%	100%	100%	100%	100%	
Jsa	KEL6	Rare	20%	N/K	0%	0%	
Jsb	KEL7	100%	99%	N/K	100%	100%	



Kidd

Now you see it, now you don't. The Kidd is famous for its disappearing act, first making patients miserable then hiding in the blood so it can't be found. It often manages to repeat this trick a time or two before finally being caught. Kidd antibodies are famous for "binding up" complement. Kidd's reputation as a troublemaker is well-deserved, but it's usually not lethal.

Frequency

		Caucasians	Blacks	Indian	Chinese	Japanese	Comments
Jka	JK1	77%	92%	73%	69%	67%	
Jkb	JK2	74%	49%	76%	74%	82%	

Diego

Where in the world is Diego? Diego loves to play hide and seek and is resistant to enzyme treatment. If you are looking for Diego be sure to check South, Central or Latin America. If you still can't find him, be sure to check the Asia Pacific area. As populations become more global in nature, Diego's significance is also increasing in other areas of the world. Since Dia is infrequent it may not be around most of the time; however when the antibody is present it can cause Hemolytic Transfusion Reactions and Hemolytic Disease of the Fetus and Newborn – it was first discovered because it caused HDFN in Mrs. Diego's baby.

Frequency

		Caucasians	Blacks	Indian	Chinese	Japanese	Comments
Dia	DI1	Rare	Rare	N/K	5%	9%	36% in South American Indians
Dib	DI2	100%	100%	N/K	99%	99%	
Wra	DI3	Rare					Anti-Wra is common in AIHA patients commonly detected in cross match
Wrb	DI4	100%	100%	100%	100%	100%	

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Reference Used for Frequencies: AABB Technical Manual, Seventeenth Edition, 2011