

## ヒトの血液型判定用抗体を用いたチンパンジーとカニクイザルの血液型検出とその比較

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著者	池本, 卯典 桜井, 幸男 渡辺, 嘉彦 江島, 博康
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BRIEF NOTE

Comparison of Blood Groups between *Primates troglodytes* and *Macaca fascicularis* by Use of Human Blood Grouping Antisera

Shigenori IKEMOTO, Yukio SAKURAI and Yoshihiko WATANABE

Department of Legal Medicine, Jichi Medical School,  
Minami-kawachi-machi, Tochigi 329-04

Hiroyasu EJIMA

First Department of Veterinary Surgery, Nippon Veterinary  
and Zootechnical College, Musashino-shi, Tokyo 180

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Blood groups of *Primates troglodytes* (Chimpanzee) and *Macaca fascicularis* (crab-eating monkey) established by use of human blood grouping reagents have already been reported in the ABO, MN, Rh, Lewis, I and Xg systems [1]. The polymorphisms of erythrocyte isoenzymes [3] and plasma proteins [1, 2, 4-6] have also been reported.

This report describes the detection of the following genetic markers by use of human blood grouping reagents, although these markers have seldom been reported: the Kell, Duffy and Kidd blood group systems and the Tj<sup>a</sup>, M<sup>s</sup>, Vw and U blood group antigens. The results of the detection are as follows.

Venous blood samples were collected from ten chimpanzees and crab-eating monkeys bred in Japan and tested with antisera against A, B, H (*Ulex europaeus* extract), M, N, S, s, P, Le<sup>a</sup>, Le<sup>b</sup>, C, c, D, E, e, Fy<sup>a</sup>, Fy<sup>b</sup>, Jk<sup>a</sup>, Jk<sup>b</sup>, K, k, Mi<sup>a</sup>, M<sup>s</sup>, Tj<sup>a</sup>, Vw and U. These antisera had been supplied by

the Ortho Diagnostics, Raritan, New Jersey. They were used according to the directions.

Tables 1 and 2 show the results of the detection. The following genetic markers were present in the erythrocytes of both species: ABO, MNSs, P, Lewis, Rh, Kell-Cellano, Duffy and Kidd blood group systems and Mi<sup>a</sup>, M<sup>s</sup>, Tj<sup>a</sup>, Vw and U blood group antigens.

Blood groups of chimpanzees: B, H, N, S, C, e, Fy<sup>a</sup>, K and Tj<sup>a</sup> antigens could not be detected from erythrocytes. Of s, Le<sup>a</sup>, Jk<sup>b</sup>, M<sup>s</sup> and Vw antigens, some were detectable and others undetectable. A, M, P, c, D, E, E, Le<sup>b</sup>, Fy<sup>b</sup>, Jk<sup>a</sup>, k, Mi<sup>a</sup> and U antigens were detected in all the samples.

Blood groups of crab-eating monkeys: A, B, H, N, S, s, C, c, D, E, e, Fy<sup>a</sup>, Jk<sup>a</sup>, K, Mi<sup>a</sup>, Tj<sup>a</sup>, Vw and U antigens could not be detected. Of M, Le<sup>a</sup> and M<sup>s</sup> antigens, some were detectable and others undetectable. P, Le<sup>b</sup>, Fy<sup>b</sup>, Jk<sup>a</sup> and k antigens were detected in all the samples.

In conclusion, antigens distributed in one

Table 1. Hemagglutination of chimpanzee erythrocytes with human blood grouping reagents

System of Human blood group	Anti-serum	Hemagglutination			Number observed
		Positive	Intermediate	Negative	
ABO	anti-A	10	0	0	10
	anti-B	0	0	10	10
	anti-H	0	0	10	10
MNSs	anti-M	10	0	0	10
	anti-N	0	0	10	10
	anti-S	0	0	10	10
	anti-s	0	8	2	10
MNSs associated antigen	anti-Mi <sup>a</sup>	10	0	0	10
	anti-M <sup>B</sup>	3	1	6	10
	anti-Vw	3	2	5	10
	anti-U	6	4	0	10
P	anti-P	0	10	0	10
	anti-Tj <sup>a</sup>	0	0	10	10
Lewis	anti-Le <sup>a</sup>	2	4	4	10
	anti-Le <sup>b</sup>	10	0	0	10
Rh	anti-C	0	0	10	10
	anti-c	10	0	0	10
	anti-D	10	0	0	10
	anti-E	8	2	0	10
	anti-e	0	0	10	10
Duffy	anti-Fy <sup>a</sup>	0	0	10	10
	anti-Fy <sup>b</sup>	10	0	0	10
Kidd	anti-Jk <sup>a</sup>	10	0	0	10
	anti-Jk <sup>b</sup>	3	2	5	10
Kell-Cellano	anti-K	0	0	10	10
	anti-k	10	0	0	10

species differed markedly from those in the other. The antigen distribution in chimpanzees was more closely related to that in human beings than that in the monkeys. These results should be of interest from the viewpoint evolution and from that of blood group antigens.

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Table 2. Hemagglutination of crab-eating monkey erythrocytes with human blood grouping reagents

System of Human blood group	Anti-serum	Hemagglutination			Number observed
		Positive	Intermediate	Negative	
ABO	anti-A	0	0	10	10
	anti-B	0	0	10	10
	anti-H	0	0	10	10
MNSs	anti-M	1	4	5	10
	anti-N	0	0	10	10
	anti-S	0	0	0	10
	anti-s	0	0	0	10
MNSs associated antigen	anti-Mi <sup>a</sup>	0	0	0	10
	anti-M <sup>B</sup>	0	2	8	10
	anti-Vw	0	0	10	10
	anti-U	0	0	10	10
P	anti-P	10	0	0	10
	anti-Tj <sup>a</sup>	0	0	10	10
Lewis	anti-Le <sup>a</sup>	0	10	0	10
	anti-Le <sup>b</sup>	10	0	0	10
Rh	anti-C	0	0	0	10
	anti-c	0	0	0	10
	anti-D	0	0	0	10
	anti-E	0	0	0	10
	anti-e	0	0	0	10
Duffy	anti-Fy <sup>a</sup>	0	0	10	10
	anti-Fy <sup>b</sup>	8	2	0	10
Kidd	anti-Jk <sup>a</sup>	0	0	10	10
	anti-Jk <sup>b</sup>	7	3	0	10
Kell-Cellano	anti-K	0	0	10	10
	anti-k	10	0	0	10

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