Note added in proof. Bauer *et al.*[15] have independently applied the lactoperoxidase technique to isolate immunoglobulin from murine splenic lymphocytes.

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Erythrocyte Membrane-specific Antigens common to Several Species of Rodentia

THE rare existence of organ-specific antisera transcending species differences was pointed out by Coombs[1]. Similar new organ, or "erythrocyte-specific", antisera reacting selectively to the erythrocytes of several species of Myomorpha are described here. The antisera, "anti-A", were prepared by the method of Adachi and Furusawa[2]: adult guinea-pigs were sensitized with the "antigen-A" (the protein portion of dd mouse erythrocyte membrane). The detailed procedure for preparing labelled antibody, the staining method and its specific reactivity to mouse erythrocytic cells have been reported before[3]. Circulating erythrocytes from various animals were stained with the fluorescein isothiocyanate-labelled "anti-A". Smeared cell preparations were fixed with acetone at −20° C for 20 min and incubated with the labelled antisera, which had been thoroughly absorbed with the emulsion of mouse liver and kidney to remove the cross-reacting antibodies, at 37° C for 90 min. A light microscope with a darkfield condenser was used for the fluorescent observations using Orsen's interference filter system. Clear fluorescent reactions, though of varied intensities, were observed with those animals classified as Myomorpha, that is, mouse, rat, golden hamster and Chinese hamster (Table 1, Fig. 1). Mammalian erythrocytes other than those of the guinea-pig used as the sensitized animal showed faint fluorescences. Nucleated erythrocytes of the chick, quail, turtle, toad and goldfish were negative to the reaction. The erythrocyte-specific reactivity of the labelled antisera was examined with the liver, kidney and thymus cells of the animals whose erythrocytes displayed intense fluorescences; they showed, however, no fluorescence.

Table 1 Distribution of the Erythrocyte Membrane-Specific Antigens in Various Animals

Animal tested	Fluorescent reaction in erythrocyte	Animal tested	Fluorescent reaction in erythrocyte
Goldfish	− *	Dog	+
African clawed toad	−	Rabbit	+
Turtle (*Clemmys*)	−	Squirrel	±
Chick	−	Guinea-pig	−
Quail	−	Chinese hamster	++
Sheep	±	Golden hamster	+++
Goat	±	Rat	+++
Cow	±	Mouse	++++
		Human (A, B, AB, O)	+

* ++++, Intensive; +++ and ++, intermediate; +, very weak; ±, trace; −, negative fluorescence.

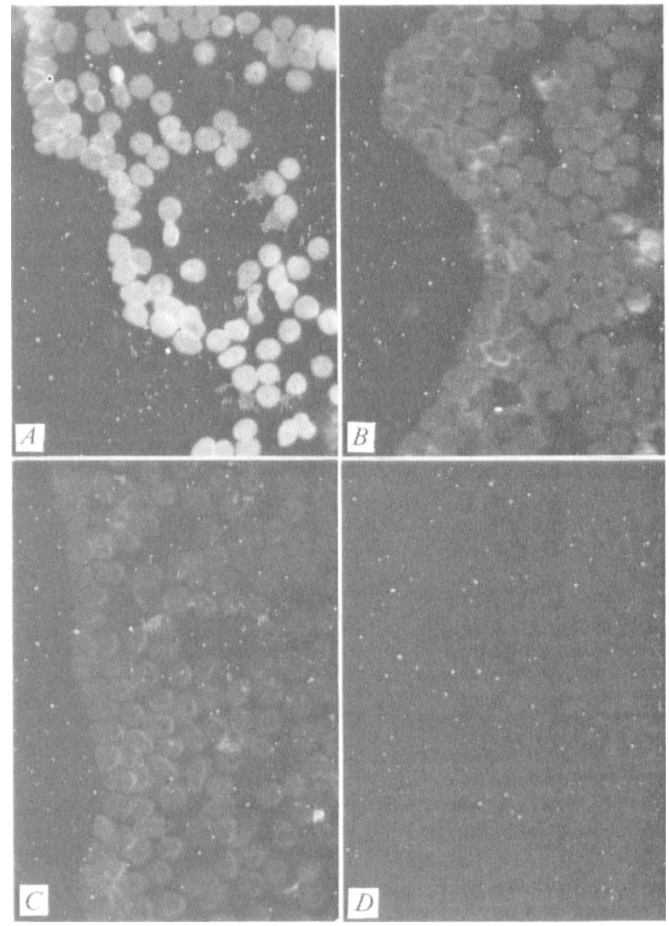

Fig. 1 Fluorescence photomicrograph of the smear of erythrocytes. *A*, Mouse; *B*, rat; *C*, golden hamster; *D*, sheep (×560).

It has been shown[2] that the Ouchterlony's immunodiffusion test revealed three specific precipitation lines in the "anti-A" and "antigen-A" reaction. In the experiment described here, the Ouchterlony test showed that both the antigenic fractions prepared from the erythrocyte membranes of mice ("antigen-A") and rat produced two common specific lines against the "anti-A"—surely, supporting the theory of transcendency of species differences of the "erythrocyte-specific" antisera.

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