

*Brief Communication*

POSSIBLE APPLICATION OF THE IHI TEST  
IN THE SPECIES IDENTIFICATION OF HAIR\*

Immunological species differentiation of keratein from hair has previously been demonstrated by the precipitin ring test in tubes (*Pillemer et al.* 1939) and by the indirect hemagglutination test (*Simonsen* 1970). In the present study the possibility of species identification of s-carboxymethylkeratein (SCMK) from single hairs was examined. SCMK and rabbit anti-SCMK sera from man, horse, dog and ox were prepared according to methods described by *Gillespie* (1962) and *Simonsen* (1970, 1971). Suitable antisera were used for the indirect hemagglutination-inhibition (IHI) test (*Stavitsky* 1954). The antisera were absorbed with heterologous SCMK and the inhibition test performed using SCMK extracted from 5 cm stretches of hairs by reduction and alkylation in 1 ml fluid volumes. To each vial containing 0.5 ml of antiserum in a serial 2-fold dilution row of the respective antisera was added 0.05 ml of a homologous or a heterologous single-hair SCMK. After incubation at 37°C for 30 min. SCMK-coated goat erythrocytes were added and the test read after incubation at 20°C for 18 hrs.

From Table 1 it may be seen that the inhibitory action of the homologous SCMK is from 2.3 to more than 32 fold greater than that of their heterologous counterparts.

This observation indicates that species identification of single hairs from the 4 species in question may be accomplished on the basis of the IHI test.

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Table 1. Hemagglutination and hemagglutination-inhibition reactions with SCMK and rabbit anti-SCMK sera.

	Goat erythrocytes coated with									
	equine SCMK		bovine SCMK		human SCMK		canine SCMK			
IHA titer reciprocal of non-absorbed homologous antisera	32000		8000		8000		8000		8000	
Homologous antisera absorbed with SCMK from	dog	ox	man	dog	horse	man	dog	ox	horse	man
IHA titer reciprocal	6400	3200	800	800	800	800	800	16000	800	1600
Inhibition with single-hair SCMK from	horse*	<100	<100	<100	400			800	800	
IHI titer reciprocal	dog*	3200	800	<100	<100	<100	<100	1600	1600	800
			350	800	200	300	260	<100	<100	<100

\*Geometric mean of 5 individuals.

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