

Immunochemical Studies of Human Antibodies in Endemic Malaria

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OBJECTIVE: The isolation and characterization of the human malaria antibody from Thais living in a malaria endemic area.

DESCRIPTION: Sera from persons living in an endemic area are to be screened for high antibody titer. Those with high titer will be requested to donate blood for antibody isolation, and a critical study will be made into its mode of action and protective properties with parasites from other areas of Thailand.

PROGRESS:

I. Separation technique: A separation process has been developed for plasma or serum using chromatography on DEAE cellulose followed by rechromatography on CM cellulose. By this mild method, pure gamma globulin is recovered. Although the yield is relatively low, the purity is very high and has been confirmed by immunoelectrophoresis. Presently, recovery studies are being made to determine the yield in mg gamma globulin/ml of plasma or serum. Separations to date have been made of plasma supplied by Sri Racha Red Cross Hospital from outdated blood.

II. Immune Sera Collection: Kok Saloong, a village in Lopburi Province, Thailand, has been selected for antibody screening based on the age of the village, low population movement, malaria history and lack of easily accessible medical treatment. Initial specimens from patients with low parasitemia and history of prior malaria parasitemias appear promising from immunoelectrophoretic data.

SUMMARY: Separation techniques have been developed and a collection site selected for the study of malaria antibody.