IN VITRO IMMUNOMODULATORY EFFECTS OF FACTOR VIII CONCENTRATES ON MIXED LYMPHOCYTE REACTIONS. Batchelor A, Rebus S, Peutherer JF, Steel CM and Ludlam CA. Medical Research Council Human Genetics Unit, Department of Medical Microbiology, University of Edinburgh and Royal Infirmary, Department of Haematology, Edinburgh.

Factor VIII concentrates have been implicated in subclinical immunodeficiency in haemophilia patients. We have investigated the effect of a number of factor VIII preparations on weak one-way mixed lymphocyte reactions in vitro.

To date, 9 of 9 batches of 28 factor VIII, manufactured by the Scottish National Blood Transfusion Service (SNBTS) have significantly enhanced these reactions. In contrast, 4 of 4 batches of 8Y, produced at the Blood Products Laboratory, Elstree have only a weak enhancing effect on one-way mixed lymphocyte reactions. Monoclonal antibody-purified factor VIII has no effect in this system. We have investigated the effect of SNBTS factor VIII on HIV expression in a one-way mixed lymphocyte reaction using HIV-infected responder lymphocytes. SNBTS factor VIII enhances both lymphocyte proliferation and virus replication. However, SNBTS factor VIII has no effect on cell proliferation or virus production in the absence of irradiated stimulator lymphoblastoid cells.

We conclude, therefore, that intermediate purity factor VIII concentrates, in conjunction with naturally occurring immune stimuli, could potentially accelerate the rate of disease progression in those haemophiliacs infected with HIV.