Differential Reconstitution of Azidothymidine-Induced Inhibition of Mitogenic Responses by Interleukin-2 in Lymphocytes from Patients with the Acquired Immunodeficiency Syndrome. Nokta, M. and Pollard, R.B., University of Texas Medical Branch, Galveston, TX, U.S.A.

Azidothymidine (AZT), an anti-human immunodeficiency virus (HIV) therapy, has been associated with reduction in mortality and improvement of patients with acquired immunodeficiency syndrome (AIDS). The AZT recipients, however, experience a multitude of side effects of which bone marrow suppression is the most noteworthy, especially among patients with low CD4 cell counts. The effect of AZT and Interleukin-2 (IL-2) on phytohemagglutinin (PHA)-induced proliferative response of peripheral blood lymphocytes (PBLs) from patients with AIDS was investigated. AZT 0.5 uM inhibited 40% of PHA-induced thymidine uptake in PBLs from healthy donors or patients with AIDS, irrespective of their $T_4$ cell counts. However, IL-2 (10 u/ml) had differential effect on PHA-induced thymidine uptake that appeared to be dependent on absolute $T_4$ cell counts. While PBLs from patients with $T_4$ cell counts of $400/mm^3$ or more did not respond to IL-2 (low responders) IL-2 enhanced the PHA-induced thymidine uptake in PBLs from patients with $T_4$ cell counts less than $400/mm^3$ at an average of 60% (high responders). Moreover, IL-2 reverted the AZT-induced inhibition by almost 100% in the high responder group while it did not affect counts in the low responder group. The production of IL-2 in vitro, in response to PHA or recall antigens, was equivalently inhibited in both groups. These data suggest that AZT and IL-2 could have an additive effect on immune parameters in AIDS.

Cytomegalovirus Antigens Identified by Human Monoclonal Antibodies P.A. Bradshaw, S. Perkins, E. Lennette*, C.F. Hayes, and S.K.H. Foung, Pathology Department, Stanford University School of Medicine, Stanford CA 94305 USA and *Virolab, Inc., 1204 Tenth Street, Berkeley, CA 94710 USA.

Human monoclonal antibodies (HMAbs) to cytomegalovirus (CMV) have been produced by fusion of a human-mouse cell line, SBC-H20, with B lymphocytes isolated from seropositive individuals. All of the hybridomas have secreted human IgG antibodies for over 12 months. Specificity to CMV was confirmed by indirect immunofluorescence assays and noted to have different patterns of staining. Three HMAbs (Z01, Z02 and Z10) in the presence of complement neutralize CMV by a standard plaque reduction assay. Under reducing conditions, HMAb Z01 immunoprecipitated polypeptides of 100, 60 and 42 kilodaltons (kDa). Different molecular weights, however, were detected by Western blot analysis of 66 and 51-53 kDa. HMAb Z02 detected a major band at 50 kDa and minor bands between 36-38 kDa by both methods . HMAb Z10 immunoprecipitated a single polypeptide at 60 kDa. The production of HMAbs to CMV should provide an important new approach to the study of the human host response to CMV and the identification of biologically relevant epitopes. The production of neutralizing HMAbs should also form the basis of a potentially unlimited source of relevant human antibodies for treatment of life-threatening CMV infections.