

**P012** Characterisation of recombinant human Interleukin 7 and its glycosaminoglycan binding properties

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Interleukin 7 (IL-7) is a heparin binding cytokine crucial for development of B and T lymphocytes.

Recombinant human IL-7 expressed in COS-7 monkey kidney cells was purified to homogeneity by antibody affinity chromatography. The final product contained three electrophoretic variants assessed by SDS-PAGE to Western Blot with Mr 20 000, 23 000 and 27 000 Da. Since there are two potential sites of N-glycosylation predicted by the cDNA sequence, the contribution of glycosylation was examined by expression of IL-7 in the presence of tunicamycin and by treatment of purified IL-7 with PNGase F. This resulted in complete conversion of a mixture of IL-7 variants to a single protein of Mr 20 000 Da, confirming that heterogeneity in purified IL-7 is due to N-glycosylation.

Three forms of hIL-7 separated by cation exchange and antibody affinity chromatography are currently being tested for difference in their interaction with various glycosaminoglycans. Preliminary data shows that glycoforms of IL-7 express higher affinity for heparin binding than non-glycosylated IL-7. This finding suggests a potential mechanism by which the cell could modify the GAG binding properties of IL-7 which, in turn, could influence IL-7 availability to its specific receptor.