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(54) Title: POLYMER CONJUGATES OF CYTOKINES, CHEMOKINES, GROWTH FACTORS, POLYPEPTIDE HORMONES AND ANTAGONISTS THEREOF WITH PRESERVED RECEPTOR-BINDING ACTIVITY

(57) Abstract: Methods are provided for the synthesis of polymer conjugates of cytokines, chemokines, growth factors, polypeptide hormones and receptor-binding antagonists thereof, which conjugates retain unusually high receptor-binding activity. Preparation of polymer conjugates according to the methods of the present invention diminishes or avoids steric inhibition of receptor-ligand interactions that commonly results from the attachment of polymers to receptor-binding regions of cytokines, chemokines, growth factors and polypeptide hormones, as well as to agonistic and antagonistic analogs thereof. The invention also provides conjugates and compositions produced by such methods. The conjugates of the present invention retain a higher level of receptor-binding activity than those produced by traditional polymer coupling methods that are not targeted to avoid receptor-binding domains of cytokines, chemokines, growth factors and polypeptide hormones. The conjugates of the present invention also exhibit an extended half-life *in vivo* and *in vitro* compared to unconjugated cytokines, chemokines, growth factors and polypeptide hormones. The present invention also provides kits comprising such conjugates and/or compositions, and methods of use of such conjugates and compositions in a variety of diagnostic, prophylactic, therapeutic and bioprocessing applications.