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(54) Title: INDIRECT HOMOGENEOUS MOBILITY SHIFT ASSAYS FOR THE DETECTION OF BIOLOGICS IN PATIENT
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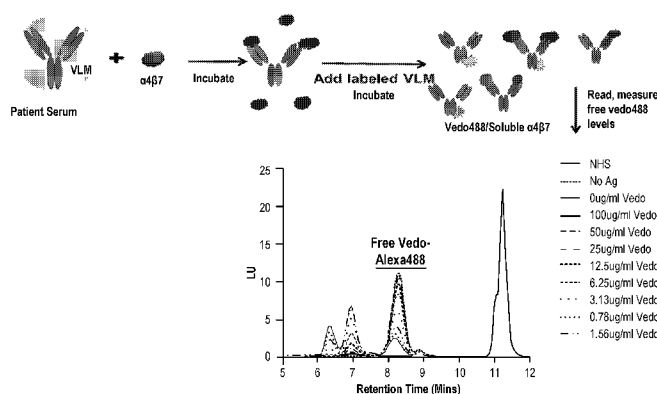


FIG. 1

(57) Abstract: The present invention provides a sensitive and specific indirect homogeneous mobility shift assay using size exclusion chromatography to measure biologics such as vedolizumab and ustekinumab in a patient sample. The assays of the present invention are particularly advantageous for detecting the presence or level of biologics that target complex or large antigens including cell surface proteins, transmembrane proteins, heavily glycosylated proteins, and multimeric proteins, as well as antigens that cannot be purified, impure antigens, and partially or substantially purified antigens. The present invention also provides isolated soluble $\alpha 4 \beta 7$ integrin heterodimers and isolated soluble IL-12p40 monomers that are suitable for use in the indirect assays described herein.