ABSTRACT

MEDIA FOR MEMBRANE ION EXCHANGE CHROMATOGRAPHY BASED ON POLYMERIC PRIMARY AMINES, SORPTION DEVICE CONTAINING THAT MEDIA, AND CHROMATOGRAPHY SCHEME AND PURIFICATION METHOD USING THE SAME

Media and devices, such as anion exchangers including such media, wherein the media is a membrane having a surface coated with a polymer such as a polyallylamine. The resulting membrane offers stronger binding of protein impurities and superior removal of host cell proteins from biological samples than conventional ligands based on quaternary ammonium salts, including trimethylammonium ligands. Also described is a chromatography scheme and method for purifying monoclonal antibodies, wherein the anion exchange sorber is placed downstream of an affinity column (such as Protein A or Protein G affinity column) and optionally one or more polishing devices such as cationic exchange columns. Little or no dilution of the cation exchanger pool (or affinity column exchange pool where no cation exchanger is used) is necessary to lower the conductivity of the sample. The sorber functions well to strongly bind host cell proteins and other impurities in biological samples even at high conductivities and pH.

Selected Drawing: Figure 1A