

ABSTRACT

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Purification and characterization of Covid serum antibody IgG was carried out in this research. Antibodies serve tremendously in therapeutic applications. This study is aimed at charting out a manual/systematical purification methodology feasible for the purification and characterization of antibodies at commercial level. Various non-chromatographic techniques were optimized either individually or in combination. Optimizations were introduced in previously reported purification strategy based on ammonium sulphate precipitation and trichloroacetic acid precipitation methods. Combined protocols were also applied, namely, combined AS+ EtOH fraction method and combined TCA/acetone method. Combined AS+ EtOH method was found inefficient and retained unwanted plasma protein in high content. We also found that by adding dilution factor the efficacy of Ammonium sulphate and TCA precipitation methods increased which were discussed above and efficient purification of IgG was obtained. SDS-PAGE analysis was carried out to analyses protein content for each treated samples and get ~50kDa HC and ~25kDa LC bands of IgG due to the breakage of disulphide bond present between heavy and light chains of antibodies. This study provides potential approaches toward non-chromatographic IgG purification techniques.