

WHITE PAPER

Analyses of Large Proteins Using Advanced Large Pore Superficially Porous LC Materials



Abstract:

As pharmaceutical companies have shifted their development focus to large-molecule biotherapeutics, the ability to separate intact monoclonal antibodies and antibody-drug conjugates for characterization purposes has become extremely important. To enable this characterization work, new LC particle technology is required. The large 1000 Å pore size of the superficially porous particles used for RPLC described herein enables full access to the bonded phase surface for larger biomolecules. This improved access to the bonded surface produces narrower peak widths and enhanced resolution of minor mAb variants and can lead to increased retention under most analysis conditions. Together, with new mass spectrometric instrumentation and software, wide-pore superficially porous particle LC columns will greatly aid in the advancement of large-molecule biopharmaceutical characterization and development. The recent expansion of the very-large-pore superficially porous particle family which includes three bonded phases (C4, C18, Diphenyl) permits very high-resolution separations of a lower abundance of protein variants, permitting structure analysis and quantification of these variants.

What You'll Learn:

- How to develop a strategy for separating large, complex proteins (> 50,000 MW)
- How to utilize larger pore sizes to improve the efficiency and robustness of your large complex protein separations
- A review of several examples in which larger pores were used to improve protein separations

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