Chromatographic Measurement of Two-Body Protein(2)-Protein(3) Interactions in Aqueous Solution

Sang Ha Choi and Young Chan Bae
Corresponding author. Tel.: +82-2-2220-0529; Fax.:+82-2-2296-0568.
E-mail address: ycbae@hanyang.ac.kr
Division of Chemical Engineering and Molecular Thermodynamics Lab.
Hanyang University, Seoul 133-791, Korea
http://www.inchem.hanyang.ac.kr/lab/mtl/

Abstract

A chromatographic method is used to measure interactions between unlike proteins in aqueous electrolyte solutions as a function of ionic strength, salt type, and pH. One protein is immobilized on the surface of stationary phase, and the other protein dissolved in electrolyte solution conditions flows over that surface. The relative retention of proteins reflects the mean interactions of immobile/mobile proteinprotein. The cross osmotic second virial coefficient calculated with assuming a suitable potential of mean force shows that the interaction of unfavorable proteins depends on immobilized protein conditions.