

Protein Binding Study of Catechin Hydrate and Genistein by High-Performance Frontal Analysis

전명래, 정용안¹, 엄홍원, 노경호*
인하대학교; ¹한국기기유화시험연구원
(rowkho@inha.ac.kr*)

High-performance frontal analysis (HPFA) was used for the protein binding study of catechin hydrate and genistein to human serum albumin (HSA). The experiment was performed on a Develosil 100Diol-5 column and sodium phosphate buffer (pH 7.4 and ionic strength of 0.17) was used as the mobile phase. The mixtures of the drug-HSA solution were directly injected into the HPFA column, the HSA was eluted first and the unbound drugs were eluted out as a trapezoidal peak with a plateau region. The unbound drug concentration was determined from a plateau height of the plateau region and the experimental data were fitted by Scatchard equation, the binding constants (K) and binding affinities (nK) of the drug to HSA were $K=1.32 \times 10^4$ (L mol⁻¹), $nK=0.47 \times 10^4$ (L mol⁻¹) for catechin hydrate, and $K=5.17 \times 10^4$ (L mol⁻¹), $nK=2.14 \times 10^4$ (L mol⁻¹) for genistein.