

Protein Binding Study of Emodin and EGCG using High-Performance Frontal Analysis

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High-performance frontal analysis was used for determination of binding constant of emodin and a green tea extract, EGCG to human serum albumin (HSA). The experiment was carried out using Inertsil 100 Diol 5 column and sodium phosphate buffer (pH 7.4) in the mobile phase. A "restricted injection" method was used to ensure drug to be eluted as a zonal peak with a plateau. The unbound drug was calculated from the peak height of the zonal peak. Scatchard analysis was used to evaluate the binding constant (K) and the binding affinity (nK) of emodin and EGCG to HSA. The retention time of emodin is about 140min, and 40min for EGCG. The zonal peak at low concentration of EGCG was not obtained, therefore high drug-concentration of EGCG was applied to binding with HSA.