

## Fluorescence Analysis of Interaction of Phenylbutazone and Methotrexate in Binding to Serum Albumin in Combination Treatment in Rheumatology

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Combination of several drugs is often necessary, especially during long-term therapy. The competition between drugs can cause a decrease of the amount of a drug bound to albumin. This results in an increase of the free, biological active fraction of the drug.

The aim of the presented study was to describe the competition between phenylbutazone (Phe) and methotrexate (MTX), two drugs recommended for the treatment of rheumatology in binding to bovine (BSA) and human (HSA) serum albumin in the high affinity binding site. Fluorescence analysis was used to estimate the effect of drugs on the protein fluorescence and to define the binding and quenching properties of drugs-serum albumin complexes. The effect of the displacement of one drug from the complex of the other with serum albumin has been described on the basis of the comparison of the quenching curves and binding constants for the binary and ternary systems.