Naloxone inhibits human serum albumin glycation

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Advanced glycation end-products (AGEs) are formed by non-enzymatic reaction between reducing sugar and protein. AGEs play important roles in pathogenesis of diabetic, aging complications, endothelial dysfunction and neurological diseases such as the Alzheimer's disease. Therefore compounds that prevent the glycation reaction are purported to have therapeutic effect on patients with diabetes and age-related complication. In this study, the Human serum albumin at concentration of 10 mg/ml was incubated in PBS with 40 mM Glucose, and in different concentrations of Naloxone (25, 100, 250 µM) for 42 days at 37°C. HSA with no additives and with Glucose 40 mM were incubated as control and as glycated sample, respectively. Following the incubation, the samples were prepared for Circular Dichroism, Fluorescence and absorbance techniques. It was shown different Naloxone concentration can prevent Human serum albumin glycation.