observed to inhibit amyloid-mediated peroxidase activity in a reversible un-competitive manner. The resulting data may be useful in providing mechanistic insights to develop potential diagnostic, curative, and/or preventive strategies in vivo against amyloid-related neurodegenerative disorders. We will discuss importance of our observations.

Keywords: Amyloid Detection, Benzothiazole And Benzofuranone, Peroxidase Activity.

Abstract No.274

Investigation on the Effects of Glibenclamide on the Structure and Function of Human Carbonic Anhydrase II

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Carbonic anhydrases (CAs, EC 4.2.1.1) are metalloenzymes which catalyze the reversible hydration of CO2 to form bicarbonate and proton. CAs inhibition is exploited clinically for decades for various classes of diuretics and systemically acting antiglaucoma agents. In the last years, novel applications of CA inhibitors emerged, such as topically acting anticonvulsants, antiobesity, antipain, and antitumor agents/diagnostic tools. In this study, we used the combination of computer modeling with spectroscopic techniques, such as UV-Vis, fluorescence and circular dichroism (CD) spectroscopy to investigate the effects of glibenclamide, a sulphonylurea drug, on the human carbonic anhydrase II (hCA II) structure and function. Kinetic studies showed that glibenclamide inhibits hCA II esterase activity via a simple competitive mode. Stern-Volmer analysis of quenching data at different temperatures revealed that the intrinsic fluorescence of enzyme was quenched through a dynamic quenching mechanism. Analysis of the thermodynamic parameters of binding showed that hydrophobic interactions play the major role in stabilization of the enzyme–drug complex.The results of the surface hydrophobicity index determination, chemical modification of the surface tryptophans and CD spectroscopy showed occurrence of some compactness in hCA II structure due to interaction with glibenclamide which was in good agreement with the theoretical analyses.

Keywords: Human Carbonic Anhydrase II, Glybenclamide, Competitive Inhibition, Binding Study.

Abstract No.275

Effect of Boswollia Extract on Dynamicity of Microtubule Protein, Related Memory and Consciuousness

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Tubulin and microtubule protein have been defined as constants of neural processes result8ing memory and consciousness. Microtubule protein is composed of tubulin dimmers α and β. Microtubule Polymer (MTP) is a dynamic polymer residing mostly in neural axon and dendrites as well as mitotic spindle. It has been shown that decreasing polymerization rate or shortening of MTP results in decreasing memory and consciousness-based memory. Therefore deformation or deactivation of MTP has been shown in Alzheimer's disease. Lots of effort have been conducted to enhance polymerization for memory loss remedy.In our study Boewollic acid was extracted from Boswollia gum. Different doses of Boswollic acid and taxol were prepared and tested on polymerization of tubulin at 37°c and at the presence of 1mM GTP. In spite of the fact that both compounds increased the length of the tubuline polymers, taxol inhibited dynamicity of microtubule proteins, while Boswollic acid increased the dynamicity. In vivo studies showed that taxol decrease memory of albino mouse while Boswollic acid enhanced the memory and consciousness of animal by several factor. We suggest substituted drugs from Boswollia extract for enhancing neuroplasticity.

Keywords: Microtubule Protein, Consciuousness, Tubulin, Neural Axon.
