

defined as glue which binds to different subunits in 3-D structure and holds them against each other.

Keywords: Camel Albumin, Thermal Denaturation, Thermal Stability, Differential Scanning Calorimetry.

Abstract No.182

The Comparative Study of the Antioxidant Influence and α -Glucosidase Inhibitory Effect of Aloin

Fatemeh Ghamari, Maryam Salam, Seyyed Mahmoud Ghaffari, Faezeh Moosavi-Movahedi, Farzaneh Farivar, Ali Akbar Saboury, Ali Akbar Moosavi-Movahedi*

Institute of Biochemistry and Biophysics, Tehran University, Tehran, IR
(E-mail: f.ghamari@ibb.ut.ac.ir)

Oxidative stress happens during normal metabolic process in the body and it is induced by a variety of environmental factors and chemicals. It has been investigated that oxidative stress plays significant role in the etiology of diabetes in humans as well as in diabetes related complications. Diabetes mellitus is responsible for about 5% of global deaths. The α -glucosidase has been recognized as a therapeutic target for the modulation of postprandial hyperglycemia. Therefore the inhibition of α -glucosidase activity has a positive effect on prevention of hyperglycemia. Nutrition is the gold key to good health. Studies have shown that regular consumption of natural antioxidants that show α -glucosidase inhibitory that reduces the risk of hyperglycemia. Aloe vera is a commercial and medicinal important plant. Many active components have been isolated from aloe vera and studied for their biological activities. In this report the antioxidant influence and α -glucosidase inhibitory effect of active aloe vera component "aloin" was investigated. The total antioxidant capacity of aloin was investigated using spectrophotometry ABTS-based method (reduction of the cation radical of 2,20-azinobis(3-ethylenebenzothiazoline-6-sulfonic acid(ABTS)). The mode of inhibition of α -glucosidase by aloin was determined using Lineweaver-Burk equation. The result of this study indicated that aloin has a good antioxidant and α -glucosidase inhibitor. The mechanism of α -glucosidase inhibition by aloin is a mix inhibition with a value of 3.6 ($\alpha > 1$, showing anti-cooperativity between substrate and inhibitor binding sites) and a KI value of 1.36 mM (better inhibitor relative to reference drug, acarbose (KI =9.11±0.25 mM)). From the result of this study it can be concluded that aloin can be considered as a natural medication for the diabetes patient.

Keywords: α -Glucosidase, Aloin, Inhibition, Enzyme Kinetics, Diabetes, Nutrition.

Abstract No.183

The Effect of Intramolecular and Intermolecular Disulfide Bonds on Tau Protein Aggregation

Leila Yousefi, Gholamhossein Riaz, Shahin Ahmadian*

Department of Biochemistry, Institute of Biochemistry and Biophysics, University of Tehran, Tehran, IR
(E-mail: l_yousefi2007@yahoo.com)

Tau protein is a microtubule-associated protein (MAPs) that is mainly present in neurons and is involved in neurite extension and maintenance. There are two known isoforms for tau protein: 3R and 4R. As tau aggregation likely plays role in a number of neurodegenerative diseases (taupathy), understanding tau aggregation process is of considerable importance. One of the hallmarks of the Alzheimer's disease is the pathological aggregation of tau protein into paired helical filaments (PHFs) and neurofibrillary tangles. Several studies suggest that interdisulfide bonds can promote tau aggregation in vitro. By contrast, some believe that intramolecular disulfide bond formation retards tau aggregation in vitro. But the precise mechanism still remains unclear. We suggest that tau aggregation depends on disulfide bridges formed by the Cys291 and Cys322. In our work, the assembly of PHFs from 4R tau protein was tested in the presence of heparin and aggregation of oxidized tau was analyzed. Our initial results argue that the main effect of intramolecular disulfide bond formation accelerates tau aggregation. However definite result needs further work and studies.

Keywords: Tau, Aggregation, Oxidation, Disulfide Bond.

Abstract No.184

Production and Characterization of a Thermostable Polymethyl Galacturonase From Bacillus Licheniformis BR1

*Banafshe Rastegari**

Department of Biology, Faculty of sciences, Shiraz University, Shiraz, IR
(E-mail: banafshe_rastegari@yahoo.com)

Pectinases are biotechnologically important enzymes that involved in depolymerisation of the heterogeneous polysaccharide, pectin. A