

3rd International Conference and Exhibition on Metabolomics & Systems Biology

March 24-26, 2014 Hilton San Antonio Airport, San Antonio, USA

Dual action antidiabetic compounds obtained from *Rhododendron arboreum*

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Diabetes mellitus is group of metabolic disorders characterized by innate or acquired inability to transport glucose from blood stream to cells. It is caused by the defect in secretion or action of insulin or both. Conventionally, use of plant extracts for the treatment of diabetes was very common. Plentiful of studies have shown efficacy of the crude plant extract as well as their bioactive compounds in lowering blood glucose levels. Decreasing the post- prandial glucose level by retarding the absorption of glucose by inhibiting the carbohydrate hydrolyzing enzymes (alpha and beta glucosidase) in digestive tract is one of therapeutic approach to treat diabetes. In the present study we have evaluated antidiabetic properties of pure compounds isolated from the bark of *Rhododendron arboreum*. *In vitro* studies of these compounds against alpha and beta glucosidases revealed them as potent and selective inhibitors of alpha glucosidases that suggested their ant diabetic potential. Some of the compounds also showed potent antioxidant activity. In order to study further antidiabetic behavior of these compounds, their antiglycation potential was evaluated. The compounds showed glycation inhibition up to 78%. Identification of natural compounds with the ability to inhibit α -glucosidase selectively as well as with tendency to cease glycation, suggest them as very interesting antidiabetic compounds which can lead to the discovery of novel potential drugs for diabetes with dual action.

Biography

Rabia Raza is a Ph.D. Scholar at Bahauddin Zakariya University, Multan, Pakistan. She is working on inhibitors based discovery of drugs. During her Ph.D. studies, she has published six research articles in prestigious international high impact journals. She was awarded with research productivity award twice in 2011 and 2012 for her outstanding research productivity. She also won first prize in poster competition on presenting her work in an International Chemistry conference in Karachi Pakistan.

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