International Journal of
Applied Biology and Pharmaceutical Technology

Abstract

Molecule of millennium- Taurine; & its Analogues: A New Class of Therapeutics in Human Welfare.

R.C. Gupta
SASRD, Nagaland University, India.

Abstract:

Taurine (2-Amino Ethane Sulfonic Acid) was discovered more than two hundred years ago from animal sources. It is distributed in both mammals and non-mammals and its content is high in several vital tissues. For more than a century and a- half, taurine was regarded just as an end product of sulfur metabolism. Recently, taurine has been rediscovered and its beneficial effects in processes like epilepsy, hypertension, congestive heart failure and diabetes has been well documented. It was patented and found some clinical utility but being an amino acid, therapeutic use confronts limitations like restricted permeability and more. This necessitates the development of pro-Drugs (analogues) mainly derivatives of taurine exploiting the methylene chain, functional groups amino as well sulfonic .A number of route and paths have been used to incorporate amino moiety in heterocycles resulting Quinazolones, Imidazoles and several others in the similar fashion sulfonic group has been incorporated in sulfone ,sulfonamide and others .A large number of taurine derivatives have been reported in the literature with partial to marked activity. Taurine derivatives like taltarimide, acomposite and tauromustine, are already in the market as anticonvulsant, anti-alcoholic and anti cancer agents. Many other analogues are effective in experimental models. The in depth analysis of these analogues and their biological actions can provide certain clues for further consideration. In the presentation attempts have been made to provide synopsis, synthesis and symbiosis of chemical and biological actions, which may provide future guidance and facilitate further research in this area. The successful journey of these heterocycles to clinical utility is a healthy and happy sign and an index of bright future in alleviating such suffering.

Biography:

Dr. Ramesh Gupta is consultant RNB Global University Bikaner India & former vice chancellor of Radha Govind University and Pro Vice Chancellor of Nagaland Central university India, had obtained PhD as the age of 23 years He received his Bachelor of Science in Biochemical Science, and Master of Science in organic chemistry, and Doctorate in Chemistry at Lucknow University India, on Drug Development. Dr. Ramesh Gupta is a Medicinal & Bioorganic Chemist and has worked for several years as visiting professor/Scientist in various Medical schools; Louis pasture University France, University of Arizona USA, Osaka University & Nagoya University Japan, Kyung Hee University, Korea advance institute of science and technology (KAIST) Korea, Ben-Gurion University Israel, Linkoping University Sweden, University of Mons Belgium, University of Western Australia, Sydney ,University of Bergen ,Norway and some others. Prof Guptas' research focuses on the Natural & Synthetic Drug Development, role of sulfur amino acids in health care, functional food, nutraceuticals and environmental Biotechnology & gender issues.

Publication of speakers:

- Gupta R C, Win T and Bittner S (2005) Taurine analogues; a new class of therapeutics Curr Med chem 12(17):2021.
- Jakaria A H Song S Sahabuddin HJ Kim SU Choi DK (2019) Taurine and its analogs in neurological disorders: Focus on therapeutic potential and molecular mechanisms Redox Biology 24,1012-23
- Chung MC , Pedro M Bosquesi,PL Paulo RY, Leandro dos Santos J and Vizioli EO(2012) Drug Design Based on the Amino Acid Approach: Taurine Analogues for the Treatment of CNS Diseases Pharmaceuticals, 5, 1128-1146

Citation: Ramesh C Gupta; Molecule of millennium- Taurine; & its Analogues: A New Class of Therapeutics in Human Welfare.; July 28, 2020; Vienna, Austria