The role of stereochemistry in pharmacy

Stereochemistry is a unique science concerned with the study of how molecules are affected by the way their atoms are arranged in space. It is also known as 3D chemistry. Stereochemistry has become a significant issue for both the pharmaceutical industry and the regulatory authorities. There are different types of stereoisomers especially enantiomers. Accordingly, this workshop reviews the concepts of stereochemistry and enantiomers, emphasizes the potential biological and pharmacological differences between the 2 enantiomers of a drug, and highlights the clinical experience with single enantiomers of the selective. Most natural products, the essential products of life, are asymmetric and this established the only well marked line of demarcation between chemistry of dead matter and the chemistry of living matter. So, the importance of stereochemistry in drug action is gaining greater attention in medical practice, and a basic knowledge of the subject will be necessary for clinicians to make informed decisions regarding the use of single-enantiomer drugs. For some therapeutics, single-enantiomer formulations can provide greater selectivity for their biological targets, improved therapeutic indices, and/or better pharmacokinetics than a mixture of enantiomers. Indeed, more stereochemically pure drug agents will become clinically available and pharmacists will be relied upon for their knowledge and expertise in this area.

Biography

Salwa Elmeligie has completed her PhD from Cairo University and Postdoctoral studies from Faculty of Pharmacy, Iowa University, USA. She is Head of Pharmaceutical Organic Chemistry Department, Faculty of Pharmacy, Cairo University. She is also Reviewer for Higher Education Institutions (HEIs), conducted by the National Authority of Quality Assurance and Accreditation of Education (NAQAAE), and credited trainer in Egypt. She has published more than 36 papers in reputed journals and has been serving as an Editorial Board Member of repute in addition to attending more than 20 training courses in Quality Assurance systems.

salwaelmeligie@yahoo.com