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Steroidal oximes modified by N-protected amino acids

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Modification of steroids with pharmacophores in order to discover new highly active compounds is a critical problem. Peptides and proteins play an important role in biological and physiological processes and combinations of amino acids, peptides and steroids have given rise to an interesting class of biologically relevant compounds. Oximes have been evaluated for potential cytotoxicity and oxime derivatives of steroids that have been reported to exhibit antibacterial, anti-inflammatory and anti-cancer activities. In particular, amino acids have been coupled with steroids with the aim of preparing potential therapeutic agents that exhibit lower toxicity whilst retaining the original activity of the parent compound. In the pharmacological perspective, the combination of two important systems in one molecule encourages increasing the biological activity; accordingly the synthesis of steroidal peptides becomes interesting. The derivatives of different oximes modified by amino acids are noteworthy. Despite steroidal oximes being biologically highly active compounds, examples of modification similar to these compounds cannot be found in the literature. In order to synthesize biologically active compounds, O-acylation of 20-hydroximino-5 α -pregn-16-en-3 β -ole, 3 β -acetoxy-20-hydroximino-5 α -pregn-16-ene and 17-hydroximino-5 α -androst-3 β -ole with N-protected amino acids (N-Cbz-L-Ala-Bt, N-Cbz-L-Val-Bt, N-Cbz-L-Phe-Bt and N-Cbz-L-Ala-L-Val-Bt) have been carried out and their antiviral activities have been studied.

Biography

Nana Gorgaslidze completed her PhD from Saint-Petersburg State Chemical Pharmaceutical Academy, Russia. She is the Director of the Ivel Kutateladze Institute of Pharmacochimistry, Tbilisi State Medical University (TSMU) and Professor at the Department of Social and Clinical Pharmacy at TSMU. She has published more than 94 papers in reputed journals, authored four books and has two patents. She is a Member of organizing committee of several international conferences and meetings. She has more 40 years of teaching experience at the Tbilisi State Medical University, Georgia. She is the Founder of the Georgian Pharmaceutical Association (President: 2002–2005) and newspaper, Pharmacy. She is a Member of Scientist and Young Pharmacists of Georgia. She has long timework experience at the Ministry of Health, Labor and Social Affairs of Georgia state control of quality medicinal and pharmaceutical products and other departments of the same ministry.

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