Amide derivative as potential prodrug

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The prodrug concept has been used to alter and mask the undesirable properties of the active parent drug. Prodrugs are pharmacologically inactive compounds which are converted into its active product by metabolic transformation like enzymatic and chemical transformations. The rationale behind the development of prodrugs is the delivery of appropriate concentrations of drug to the target cells as compared to administration of parent drug. There are many pharmacokinetic, pharmaceutical and pharmacodynamic barriers encountered by the drug. Prodrug approach has been found to be very helpful to overcome these barriers to a certain extent.

Amide bonds play a major role in the elaboration and composition of biological systems, representing for example the main chemical bonds that link amino acid building blocks together to give proteins. Amide bonds are typically synthesized from the union of carboxylic acids and amines; however, the unification of these two functional groups does not occur spontaneously at ambient temperature, with the necessary elimination of water only taking place at high temperatures

The amide prodrugs aiming to solvethese various drugs problem were designed and synthesized. The purpose of this work is to review the published strategies for the production of prodrugs of amines and the utility of these prodrug compounds to solve different problem such as to improve solubility and various pharmacokinetic profile, to reduce side effect and for tissue targeting.