

## Abstract

Different types of benzamides and their derivatives have been found in literature. Many of these compounds are responsible for varieties of biological activities. In present study, synthesis of *N*-(3-hydroxyphenyl)benzamide and its 3-*O*-derivatives was carried out and their biological activities were evaluated against various enzymes. First, *N*-(3-hydroxyphenyl)benzamide was prepared by the reaction of *m*-hydroxy aniline and benzoyl chloride in aqueous medium and then synthesis of different 3-*O*-derivatives of *N*-(3-hydroxyphenyl)benzamide were carried out by the reaction of *N*-(3-hydroxyphenyl)benzamide with different alkyl halides through *O*-alkylation. EIMS, <sup>1</sup>H-NMR and IR spectral techniques were employed for the characterization of synthesized compounds. These synthesized compounds were screened against acetyl cholinesterase (AChE), butyryl cholinesterase (BChE) and lipoxygenase (LOX) and were found to be more active against acetyl cholinesterase and butyryl cholinesterase. In the case of lipoxygenase (LOX), only few of them were inactive while other showed inhibitory activity against lipoxygenase.