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Design, synthesis and biological screening of 2-aminobenzamides as selective HDAC3 inhibitors with promising anticancer effects

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Abstract

Histone deacetylases (HDACs) have been found as a potential target for anticancer therapy. A number of HDAC inhibitors have been used pre-clinically and clinically as anticancer agents. In the current study, we have designed and synthesized compound **12a** by combining the scaffolds of **CI-994** and **BG45.** Moreover, the structure of compound **12a** was optimized and a series of 2-aminobenzamide derivatives were synthesized further. These compounds were tested for their HDAC inhibitory activity and found to be efficient HDAC inhibitors. Compound **26c** showed