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Synthesis,Characterization and in vitro evaluation of the anticancer activity of new HA–based HDAC inhibitorscontaining amino acidsandanalides as a surface recognition moieties

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Abstract: In the present study, Two series of novel histone deacetylase (HDAC) inhibitors were designed , synthesizedand their in vitro anticancer activity were evaluated. in the first series, weuse the amino acids phenyl alanine, luecine and tyrosine as the surface recognition and capping groups, while in the second series ,we use p- substituted aanilines as the surface recognition and capping groups.
The structures and purity of the targeted compounds were confirmed by TLC , FTIR ,H-NMR and mass spectroscopy and their anticancer activity were evaluated by using HeLa nuclear extract and normal embryonicfibroblasts cell lines.All the synthesized compounds shows good anticancer activity, represented by their growth inhibition rate percent on Hela cell line and compound (IBd) show the best safety index(SI) that represented by its cytotoxic activity on cancer cell line while sparing the normal cell line.
Keywords:HDACi, Amino acids, Analide CAP groups.

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