Phosphine derivatives of ciprofloxacin and norfloxacin, a new class of potential therapeutic agents.

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Streszczenie

In this paper a new series of chalcogenides of diphenylmethylaminophosphine derived from ciprofloxacin (PPh_2CH_2Cp) and a new phosphine derived from norfloxacin (PPh_2CH_2Nr) are presented. The synthesized compounds were characterized by NMR, MS and X-ray techniques. Both phosphines exhibit antibacterial activity against: *S. aureus*, *E. coli*, *K. pneumoniae* and *P. aeruginosa*, similar to ciprofloxacin and norfloxacin. They inhibit the growth of microorganisms in relatively low concentrations. Chalcogenides are slightly less active than phosphines and unmodified antibiotics. All the derivatives were also tested *in vitro* as anticancer agents towards mouse colon carcinoma (CT26) and human lung adenocarcinoma (A549). Cytotoxicity studies revealed that phosphines and their chalcogenides are able to inhibit the proliferation of the cells at relatively low concentrations. Moreover, all the tested compounds are more active against tested cell lines than cisplatin – the main representative of antitumor drugs.

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