



Pyrimidine Derivatives as Antimicrobial and Anticancer Agents

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Uracil

Pyrimidine plays an important role in several biological processes. An early metabolite prepared was 5-fluorouracil (5-FU) [1]. The biological profiles of this new generation of pyrimidine represent good progress with regard to the older compounds [2]. A pyrimidine derivative followed by 5-thiouracil also exhibits some useful antineoplastic activities [3]. Also they are used as building blocks in pharmaceuticals for the synthesis of nucleoside antibiotics, antiviral, antibacterial, and antifungal agents [4,5].

Thiouracil

After the invention of 5-fluorouracil as an antimetabolite, thiouracil has become one of the most widely used antineoplastic agents. Analogously, some thiouracil derivatives were synthesized and screened for anticancer and antibacterial activity [6-10], recently, many 2-thiouracil derivatives have been reported as novel antibacterial, antimalarial, and cytotoxic agents [11]. Also recently, accumulating evidences have illustrated that substituted thieno [3,2-d]pyrimidines and quinazolines present in the cores of many physiologically active agents, due to their broad bioactivities including antitumor [12], antimicrobial [13].

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