



Review

Natural and synthetic acridines/acridones as antitumor agents: their biological activities and methods of synthesis

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Abstract:

Acridine derivatives constitute a class of compounds that are being intensively studied as potential anticancer drugs. Acridines are well-known for their high cytotoxic activity; however, their clinical application is limited or even excluded because of side effects. Numerous synthetic methods are focused on the preparation of target acridine skeletons or modifications of naturally occurring compounds, such as acridone alkaloids, that exhibit promising anticancer activities. They have been examined *in vitro* and *in vivo* to test their importance for cancer treatment and to establish the mechanism of action at both the molecular and cellular level, which is necessary for the optimization of their properties so that they are suitable in chemotherapy. In this article, we review natural and synthetic acridine/acridone analogs, their application as anticancer drugs and methods for their preparation.

Key words:

acridine/acridone analogs, synthesis, biological activity, anticancer activity
