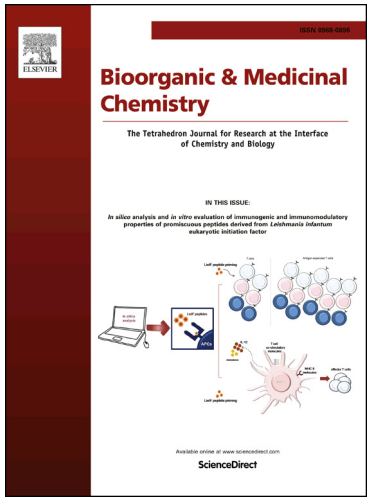

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Podophyllotoxin derivatives as an excellent anticancer aspirant for future chemotherapy: A key current imminent needs

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Abstract

Cancer is one of the leading groups of threatened caused by abnormal state cell growth and second leading diseases involved in the major global death. To treat this, research looking for promising anticancer drugs from natural resource, or synthesized novel molecules by diverse group of scientists worldwide. Currently, drugs get into clinical practices and showing side effects with target actions which in turn leading to multidrug resistance unknowingly. Podophyllotoxin, a naturally occurring lignan and its hybrids have become one of the most attractive subjects due to their broad spectrum of pharmacological activities. Podophyllotoxin derivatives have been the centre of attention of extensive chemical amendment and pharmacological investigation in modern decades. Mainly, the innovation of the semi-synthetic anticancer drugs etoposide and teniposide has stimulated prolonged research interest in this structural phenotype. The present review focuses mainly on new anticancer drugs from podophyllotoxin analogs, mechanism of action and their structure-activity relationships (SAR) as potential anticancer candidates for future discovery of suitable drug candidates.