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Protein kinase inhibitors in the management of cancer: therapeutic opportunities from natural compounds

Himanshu Singh¹, Rajnish Kumar¹, Avijit Mazumder¹

Affiliations PMID: 38373215 DOI: 10.1080/10286020.2024.2313546

Abstract

Kinase is an enzyme that helps in the phosphorylation of the targeted molecules and can affect their ability to react with other molecules. So, kinase influences metabolic reactions like cell signaling, secretory processes, transport of molecules, etc. The increased activity of certain kinases may cause various types of cancer, i.e. leukemia, glioblastoma, and neuroblastomas. So, the growth of particular cancer cells can be prevented by the inhibition of the kinase responsible for those cancers. Natural products are the key resources for the development of new drugs where approximately 60% of antitumor drugs are being developed with the same including specific kinase dwellers. This study comprised molecular interactions of various molecules (obtained from natural sources) as kinase inhibitors for the treatment of cancer. It is expected that by analyzing the skeleton behavior, the process of action, and the body-related activity of these organic products, new cancer-avoiding molecules can be developed.

Keywords: Natural products; anticancer potential; cancer; kinase; kinase inhibitors.

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