

Medicinal attributes of thienopyrimidine based scaffold targeting tyrosine kinases and their potential anticancer activities.

Nasser Saad Mohamed Ismail, Khairia Mohamed Ahmed Youssef, Amna Gheith, Khaled A.M. Abouzid

Abstract

Thienopyrimidines (TP), comprising a thiophene ring fused with pyrimidine, are famous bioisosteres to purines, an essential part of the human metabolome. This scaffold has become an interesting structural element in the development of pharmaceutical compounds, due to their wide spectrum applications as cytotoxic agents against different types of human cancer cell lines, cGMP phosphodiesterase inhibitors, and anti-viral, anti-inflammatory, and anti-microbial agents. The structural similarity of this scaffold with adenine made it an excellent moiety to be used in the design of kinase inhibitors. This review focuses on the chemistry of thienopyrimidine derivatives, their potential activities against various kinases, and their structure-activity relationship studies.

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