

ISSN 0975-2366

DOI:<https://doi.org/10.31838/ijpr/2021.13.01.347>

Review Article

**Anticancer properties of hymecromone-derived
compounds: A review**

ABSTRACT

Cancer is one of the most disturbing issues concerned with the health-care system worldwide because this disease results in a lot of death among the population. Despite there is a plentiful effort to isolate, design, and synthesize new chemotherapeutic agents, the serious side-effects, mounting tumor-resistance, and poor selectivity are still representing big challenges to medicinal chemists. In the past few decades, researchers focused their trials on investigating the anti-cancerous potential of many nature-derived products. One class of such products is coumarin-based compounds that are characterized by their structural diversity and broad pharmacological properties. Hymecromone, which is commonly known as 7-hydroxy-4-methylcoumarin, and its derived products have shown interesting potentials in the execution of multi-drug cancer resistance, frustration of adverse effects caused by chemotherapeutic drugs, and development of photo-directed cancer therapy. Besides, many synthetic hymecromone-derived products have documented to possess a powerful antitumor potential versus leukemia, breast, renal, lung, and prostate cancer phenotypes. In this review, we investigated many recently published scientific papers and analyzed their outcomes to highlight the structural characteristics of the hymecromone-derived products that are important in their potential as antitumor agents. Specification of these characteristics may guide the incoming researches toward designing and synthesizing new hymecromone-derived products with a potential anti-cancerous effect.