**عنوان مقاله:**
Plant anticancer peptides, a meta-analysis study

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**خلاصه مقاله:**

Despite significant advances in cancer treatment, the interest in designing new drugs has increased due to the increased resistance of cancer cells to current anticancer drugs. Recent studies suggest that some of the antimicrobial peptides (Anti-Microbial peptides)have a wide range of cytotoxic activity against cancer cells.These anticancer peptides alone or in combination with other conventional drugs can be considered as a promising strategy in cancer treatment.It seems that the use of herbal peptides with high and stable anticancer activity in the serum, due to easy oral administration, is the appropriate option in clinical cases. The aim of this study was to investigate the detection of herbal anticancer peptides and also to find the most common features among them. In this regard, a list and information of the antimicrobial peptides was exploitation from The Antimicrobial Peptide Database. Statistical analyzes were performed using RStudio software. The results indicated that the total number of herbal peptides with proven anti-cancer effects were 55 cases. Taxonomically, most of the peptides belong to Malpighiales order. The order of Malpighiales is one of the largest flowering plants orders, accounting about 7.8% of the total dicots from Salix to Violets and Cacao. The Gentianales, Fabales,andSantalales orders are in the next ranks. Also, the Violaceae (violets) family has the largest share in the anti-cancer peptides. It is noteworthy that all parts of violets (roots, stems, leaves, flowers, and seeds) have anticancer effects. The Rubiaceae, Fabaceae, andSantalaceae families were ranked next. Varieties of peas and beans, chassalia, some types of mistletoe, wild coffee, green coconut water, avocado fruits and hedyotis (Chinese herb) could inhibit all types of tumors and cancers. The length of about 44% of peptides was in the range of 25 to 30 amino acids. Histidine and methionine had the lowest abundance among peptide amino acids. Cysteine, serine, and glycine were high abundant amino acids. About 85.5% of the total peptides contained 20 to 40% of the hydrophobic amino acids. 91% of peptides had less than 10 acidic amino acids and 71% of peptides had less than 10 basic amino acids. Approximately 96% of the peptides had more than 40% neutral amino acids. A pure charge of 76% peptides was between -2 and 2. 64% of peptides had a Bowman index of less than 1. The low index indicates high hydrophobicity of these peptides and increases their chances for interacting with other proteins. Also, the most known importantthree-dimensional structure for plant an ...

**کلمات کلیدی:**
Anticancer Peptides, Meta-Analysis study, RStudio Software

**لینک ثابت مقاله در پایگاه سیویلیکا:**