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Pharmaceutical Sciences **Review Article……!!!**

PHARMACOLOGICAL AND MEDICINAL USES OF TERPENOIDS

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KEYWORDS:

Terpenoids, Cytostatic agent, Bicyclic Diterpene, Tetracycle Diterpene, Pharmacological activity.

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ABSTRACT

Terpenoids are a very prominent class of natural compounds produced in diverse genera of plants, fungi, algane and sponges. The pharmaceutical value since prehistoric times, due to their broad specturum of medical applications. The fragrant leaves of evcalyptus trees are a rich source of terpenoids. Manu terpenes have biological activites and are used for medical purposes. Two very prominent classes of natural products with pharmaceutical activity are the terpenes and terpenoids. Their broad spectrum of medical applications has elicited human intrest since prehistoric times by the aboriginals in australlia who used plant material containing terpenes and terpenoids as medicine.

INTRODUCTION:

Terpenoids represent the largest and most diverse class of chemicals among the myriad compounds produced by plants. Plants employ ferpenoid metabolites for a variety of basic functions in growth and development but use the majority of terpenoids for more specialized chemical interactions and protection in the abiotic and biotic environment. Traditionally plant-based terpenoids have been used by humans in the food, pharamaceutical, and chemical industries, and more recently have been exploited in the development of biofuel products. Genomic resources and emerging tools in synthetic biology facilitate the metabolic engineering of high-value terpenoid products in plants and microbes, more over, the ecological importance of terpenoids has gained increased attention to develop strategies for sustainable pest control and abiotic stress protection.

TERPENES WITH MEDICINAL AND PHARMACOLOGICAL USES:

1. **ACYCLIC POLYISOPRONE WITH CHINOID SEGMENT C(5) 10:**

   Heart failure, cancer, various degenerative symptoms of elderly people.

2. **MONOCYCLIC MONOTERPENE C10:**

   Expectorant against bronchial catarrh, antiulcer activity.

3. **MONOCYCLIC MONOTERPENE ALCOHOL C10:**

   Antibacterial, antispasmodic, antiseptic and antiulcer activity.

4. **MONOCYCLIC SESQUITERPENE C15:**

   Component of ginger oil, odors and cosmetics industry, anit ulcer, antiviral, anticancer agent.

5. **BICYCLIC SESQUITERPENE C15:**

   Anti-dementia drug, antiangiogenic activity, induces apoptosis.

6. **BIOCYCLIC SESQUITERPENE LACTON C15:**

   Inflammatory skin and bowel diseases.

7. **MONOCYCLIC SESQUITERPENE LACTON PEROXIDE C15:**

   Antimalaria drug.

8. **BICYCLIC DITERPENCE ALCOHOL C20:**

   Leukemia, breast and colon cancer, fragrance incredient.

9. **BICYCLIC DITERPENE C20:**

   Heart failure, autoimmune disorders, psoriasis, erectile dysfunction.

10. **TRICYCLIC DITERPENE C20:**

    Anti inflammatory agent, initiator of cell apoptosis, melangonesis inhibitor.

11.TRICYCLIC DITERPENE ALKALOID C20:

Cytostatic agent in cancer therapy.

12.TETRACYCLE DITERPENE:

Ingenol mebutate (Picato) drug against actinic keratoses.

13.TETRA CYCLIC TRITERPENE C30:

Anticancer, hepatopretective and anti-inflammatory drug.

14.PENTA CYCLIC TRITERPENE ALCOHOL C30:

Anticancer agent, anti- HIV activity, antibacterial and antiviral effect.

15.PENTACYCLIC TRITERPENE SAPONIN C30:

Anticancer agents, initiators of cell apoptosis.

16.BICYCLIC CAROTINOID C40:

Ultamin a source, Antioxidant activites, drug against age-related macular degeneration.

CONCLUSION:

Terpenoid-derived drugs have contributed significantly to human disease therapy and prevention. Some terpenoid drugs have provided tremendous benefits for patients and for the pharmaceutical industry. Terpenoids that is characterized by its tremendous structural diversity as a consequence of divergent biosynthetic gone evoluation. Specialized terpenoids have a long history of being used as flavors, fragrances, pharmaceuticals, insecticides and industrial compounds. Advanced functional genemics approaches provide unlimited access to the biosynthetic genes and molecular regulators of terpenoid-producing plants, and at the same time, allow deeper insight to the complexity of plant terpenoid metabolism and regulation.

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