

Novel Multi-Substituted Imidazolines with Potential Antimicrobial and Anti-inflammatory Application

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Technology description

Executive Summary

NF- κ B is a transcription factor that regulates a large number of genes and biochemical pathways, including those involved in immune, inflammatory, and anti-apoptotic responses. Many areas of drug discovery are focused on developing reagents that regulate NF- κ B. Imidazolines are potent inhibitors of NF- κ B, and are currently being used to treat a wide variety of medical conditions, including asthma, arthritis, fungal infections and hypertension. Imidazolines exhibit other properties which make them potentially useful in enhancing the activity of chemotherapy agents.

Description of Technology

This technology consists of a new class of multi-substituted 4-acid or 4-alkyl ester imidazoline compounds that exhibit anti-microbial, anti-sepsis and anti-inflammatory activity. In addition, they potentially inhibit resistance to chemotherapy reagents. This invention describes the use and an improved method for synthesis and production of these unique imidazoline compounds.

Application area

These compounds can potentially be used in the treatment of a wide variety of medical conditions including septic shock, inflammatory disorders such as arthritis and asthma, specific bacterial infections, and as a chemopotentiator in cancer treatments.

Advantages

More potent inhibition of NF- κ B: Will potentially lead to improved efficacy over other imidazolines and new applications.

Improved method for synthesis: Will provide the ability to produce purer, more active material.

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