

NATURAL PRODUCTS AGAINST ALLERGIC INFLAMMATION EXPLORED USING BIOINFORMATIC TOOLS

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Introduction. There is an increasing prevalence of allergic and inflammatory diseases which drives forward the search for new alternative natural drugs.

Purpose. Motivated by traditional herbal medicinal systems, we explore the function of herbal extracts, not only aiming to and identify the lead components, but also to reveal the orchestrating function of the cocktail of chemicals in the herb.

Materials and methods. Traditional extraction, separation and isolation techniques together with spectroscopic identification of natural compounds are used. Bioassays targeting degranulation or respiratory burst in RBL-2H3 mast cells and human neutrophils. ChemGPS-NP analysis and molecular docking correlate the components with target function or protein.

Results and discussion. Several materials were explored with the aid of bioinformatic tools including Taiwan folk medicine *Typhonium*, priceless fragrant religious *Aquilaria*, ornamental Egyptian *Diets or Malaleuca*, local Ukrainian *Iris* and saffron.

Conclusions. Several potent extracts and structural types with anti-allergic and anti-inflammatory potential were identified and may serve as a template for further development.

