OPEN ACCESS Freely available online

ISSN: 2155-6121
Journal of
Allergy & Therapy

Perspective

Anti-Inflammatory Properties of Bronchial Asthma

Casale Fayez*

Department of Allergy and Immunology, Lovelace Respiratory Research Institute, Albuquerque, USA

DESCRIPTION

Bronchial asthma is referred to as asthma. Inflammation, hyper reactivity, stenosis, and airway remodeling are the main features of this type of chronic inflammatory illness of the airways that involves cells and related components. The hypostasis of asthma is thought to be ongoing inflammation.

When rhubarb, a Chinese herb, is separated and purified, one of the useful monomer components is produced. Aminoanthraquinone, 8-dihydroxyl anthraquinone derivative called rhoden allows for anti-inflammatory, anti-bacterial, anti-tumor, and other effects. As far as reports go, we most likely haven't come across any that Rhein's anti-inflammatory properties can be utilised to treat asthma.

In recent years, network pharmacology has gained popularity as a study methodology. It is seen as a fresh approach to drug discovery for the coming years. The foundation of network pharmacology is the creation of biomolecule networks, such as the drug-target-pathway.

Network pharmacology can investigate the effectiveness of medications that function on the component-target pathway, and drugs with proven efficacy can also stop diseases in their tracks. As a result, we investigated the anti-inflammatory mechanism of rhein in the treatment of asthma using network pharmacology and offered novel therapy options.

Network pharmacology, a recent research methodology, is regarded as a new paradigm for the development of pharmaceutical research. Although the creation of biomolecular networks like "drug-target-path" is the cornerstone of network pharmacology.

Rhein is said to have anti-inflammatory properties. The outcomes of this investigation demonstrate Rhein's anti-inflammatory properties. Rhein's anti-inflammatory mostly targets MAPK14, EGFR, EERB2, TNFRSF1A, and related molecules. In order to have an anti-inflammatory effect, Rhein can either act directly on EGFR, MAPK14, EERB2, or TNFRSF1A, or it can operate indirectly on other targets.

The epidermal growth factor receptor, or EGFR, is found in abundance in epithelial tissues and is crucial in controlling how respiratory inflammation develops. Exogenous zinc ion-induced acute inflammation of the rat respiratory tract can be successfully controlled by GFR inhibitor. By lowering the production of IL-6 and IL-8, EGFR inhibitors lessen the symptoms of allergic asthma brought on by dust mites. In order to exert an anti-inflammatory action, it is hypothesized that Rhein interacts with EGFR and prevents it from binding to pro-inflammatory cytokines.

MAPK14 is a critical signaling protein for lung tissue inflammation brought on by S. pneumonia and plays a significant part in the cellular cascade set off by pro-inflammatory cytokines or external stimuli. By activating the p38MAPK signaling pathway and cascading the inflammatory response, inflammatory substances like IL-1, IL-6, and TNF- may favourably feedback to signaling pathways like ERK and nuclear factor-B (NF-B). Pro-inflammatory substances like TNF- and IL-1 are produced as a result of the transcriptional cascade controlled by P38MAPKs, which in turn activates the inflammatory enzymes. It is hypothesised that Rhein reduces inflammation by preventing MAPK14 from releasing pro-inflammatory substances including TNF- and IL-1.

The primary site of action of Rhein's anti-inflammatory activity and associated signalling pathways were anticipated. Rhein was discovered to operate on numerous targets in order to have an anti-inflammatory impact. Nevertheless, network modelling, database resource building, and software application are the foundations of network pharmacology research. The internal environment and the network model differ in a few ways. Thus, additional studies are required to verify the research findings about Rhein's anti-inflammatory benefits.

Correspondence to: Demirdag Farshchian, Department of Allergy and Immunology, Lovelace Respiratory Research Institute, Albuquerque, USA, Email: fayez.c@gmail.com

Received: 03-Feb-2023, Manuscript No. JAT-23-20163; **Editor assigned:** 06-Feb-2023, Pre QC No. JAT-23-20163 (PQ); **Reviewed:** 20-Feb-2023, QC No. JAT-23-20163; **Revised:** 27-Feb-2023, Manuscript No. JAT-22-20163 (R); **Published:** 06-Mar-2023, DOI: 10.35248/2155-6121.23.14.333.

Citation: Fayez C (2023) Anti-Inflammatory Properties of Bronchial Asthma. J Allergy Ther. 14:333.