



## Description :

Capsule ETADIN is a research product of Ergon Pharmaceuticals (Ayu). The main ingredient of Capsule ETADIN is Echinacea (*Echinacea purpurea*). Echinacea is a very popular herb, and people commonly take it to help combat flu and colds. It is a genus of herbaceous flowering plants in the daisy family - Asteraceae. It is also known as the American coneflower.

The medicinal plant Echinacea, indigenous to the U.S., is one of the most popular herbs in the U.S. marketplace. The roots of several species were the most widely used medicines to Native Americans of the Great Plains. Preparations made from several plant species and plant parts of the genus Echinacea constituted the top-selling herbal supplement sold in all U.S. channels of sales in 1997. In 2000, Echinacea preparations ranked 4th in the mainstream market. Three species of Echinacea are used as herbal remedies :

- *Echinacea angustifolia* - narrow-leaved coneflower
- *Echinacea pallida* - pale purple coneflower
- *Echinacea purpurea* - purple coneflower, eastern purple coneflower

**Composition :** Each capsule contains 400mg standardized extract of Echinacea (*Echinacea purpurea*).

**Chemistry :** *E. purpurea* herb (i.e., aerial parts) and root both contain caffeic acid derivatives (0.6 - 2.1% in roots), including mainly cichoric acid (1.2 - 3.1% in the flowers), caffeic acid, caftaric acid, chlorogenic acid and 0.001 - 0.04% alkamides. *E. purpurea* herb also contains water-soluble polysaccharides, fructans, 0.48% flavonoids of quercetin and kaempferol type and 0.08 - 0.32% essential oil.

## Pharmacology :

a) **Internal** : Demonstrates immunomodulatory, immunostimulant and antimycotic activity.

b) **In vitro** : Enhances phagocytosis, increases no-production of macrophages, demonstrates natural killer cell action and enhances the cytotoxicity of macrophages against tumor cells. Enhances antibody production (IgM, number of antibody-producing cells), induces cytokine production (IL-1, IL-6, TNFa, IFNab).

## b) Uses :

- 1) Treatment and prevention of upper respiratory tract infections (URTs).
- 2) Inflammation of the mouth and pharynx
- 3) Urinary tract infection
- 4) Infection tendency
- 5) Immune system stimulation

## Mechanism of action :

- a) Binds polysaccharides to carbohydrate receptors on the cell surface of T-cell lymphocytes and macrophages.
- b) Promotes tissue regeneration and reduces inflammation by inhibiting hyaluronidase production.
- c) Generates oxidative burst and selective cytokine production in macrophages, leading to specific toxicity to tumor cell lines.
- d) Enhances phagocytosis by human neutrophils in vitro

## Adverse effects :

here are few reported adverse effects for internal and external applications. Anaphylaxis has been reported with ingestion of an Echinacea preparation made of *E. purpurea* root.

## Contraindications :

Individuals with an increased tendency to have allergies, especially allergies to members of the family Asteraceae including arnica (*Arnica spp.*) flower, chamomile (*Matricaria spp.*) flower, marigold (*Calendula officinalis L.*) flower, yarrow (*Achillea spp.*) flower, ragweed (*Ambrosia spp.*), asters (*Ast tataricus*) and chrysanthemum (*Chrysanthemum spp.*). Drug interactions The Commission E stated that there are no known interactions.

**Pregnancy and lactation :** The Commission E found no known restrictions.

**Dosages :** 1 or 2 capsules two to three times daily or as advised by the physician.

**Storage :** Keep in a cool, dry place & away from direct sunlight.

**Presentation :** Each box contains 3x10's Alu-Alu blister pack.



Manufactured by :  
**Ergon Pharmaceuticals (Ayu)**  
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