

## Psoriasis Pharmacology



PLAY PICMONIC

## Cyclosporine

### Cycle-spear-gun

Cyclosporine is a calcineurin inhibitor that binds cyclophilin. It prevents IL-2 transcription leading to the inactivation of T-cell, which is the mediated cell for the psoriasis pathogenesis.

## Methotrexate

Moth-T-Rex-ate

Methotrexate is an antimetabolite analog of folic acid that reduces DNA synthesis by competitively inhibiting dihydrofolate reductase. It is used if the topical agent fails to treat psoriasis.

## Topical Agents

## Topical Agent

Topical agents used to treat psoriasis are corticosteroids, tacrolimus, tazarotene, and vitamin D analogs. It is effective in mild to moderate psoriasis, with less than 5% of the body surface affected, sparing the genitals, hands, feet, and face.

## Antibody Therapy<br>

## Infliximab

## N-flicks

TNF- $\gamma$  is one of the cytokines involved in the pathogenesis of psoriasis. Interfering with this process will help treat moderate to severe psoriasis, defined as more than 5% body surface area or involving hands, feet, face, or genitals. Infliximab is one example of a TNF- $\gamma$  inhibitor. It provides the most rapid clinical response among other biologic therapies.

## Adalimumab

## A-Dali-mummy

Adalimumab is another example of a TNF- $\alpha$  inhibitor that targets soluble TNF- $\alpha$ . Patients should also be screened for TB, PPD tuberculin test due to the risk of TB reactivation. This is also indicated in patients using infliximab.

## Etanercept

## E-tan-nurse Interceptor

Etanercept acts by blocking the interaction between TNF and its receptor. It can be used as a treatment option to treat moderate to severe psoriasis.

## Guselkumab

Goose-elephant

IL-23/IL-17 axis is currently thought to involve in the principal pathogenic pathway in psoriasis. Guselkumab is the first drug in its class, IL-23 blocker, to be approved by FDA as a treatment option for moderate-severe plaque psoriasis.

### Natalizumab (Tysabri)

## Nature-man

Natalizumab targets  $\alpha 4$ -integrin, which is responsible for WBC adhesion. It can increase the risk of PML in patients infected by the JC virus.

**Ustekinumab**

US-Tech-man

Psoriasis patients are found to respond to treatment that interferes with lymphocyte activation, the tumor necrosis factor (TNF) pathway, agents blocking interleukin (IL)-17, or the IL-12/23p40 subunit.<br>Ustekinumab is a fully human immunoglobulin G1? (IgG1?) monoclonal antibody that targets the p40 subunit shared by IL-12 and IL-23.

**Ixekizumab**

Exit-man with I-shaker

Ixekizumab is an IL-17A antagonist used to treat moderate to severe plaque psoriasis. It should be avoided in patients with inflammatory bowel disease.

**Secukinumab**

Second (2nd)-man

Secukinumab is an IL-17A antagonist used to treat moderate to severe plaque psoriasis.<br>