



## ANTI LEPROTIC DRUGS

**Leprosy**, also called Hansen disease, chronic infectious disease that affects the skin, the peripheral nerves (nerves outside the brain and spinal cord), and the mucous membranes of the nose, throat, and eyes. It is caused by the leprosy bacillus, *Mycobacterium leprae*. Destruction of the peripheral nerves by the bacillus leads to a loss of sensation, which, together with progressive tissue degeneration, may result in the extremities' becoming deformed and eroded.

Anti **leprotic agent** is a drug that interferes with proliferation of the bacterium that causes leprosy.

### CLASSIFICATION OF ANTI LEPROTIC DRUGS

- Sulfone - Dapsone (DDS), Solapsone,
- Phenazine derivative - Clofazimine,
- Antitubercular drugs - Rifampicin, Ethionamide,
- Other antibiotics - Ofloxacin, Minocycline, Clarithromycin,

### MECHANISM OF ACTION

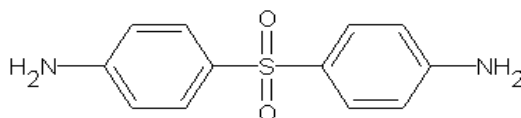
The modes of action for most of the effective classes of drugs against *M. leprae* occur at the level of nucleic acid and protein synthesis. However, for many anti-leprosy drugs, the actual mechanisms of action are not known .

### DAPSONE

Dapsone, also known as **diaminodiphenyl sulfone (DDS)**, is an antibiotic commonly used in combination with rifampicin and clofazimine for the treatment of leprosy.

As an antibacterial, dapsones inhibits bacterial synthesis of dihydrofolic acid, via competition with para-aminobenzoate for the active site of dihydropteroate synthase, thereby inhibiting nucleic acid synthesis.

### **STRUCTURE & IUPAC NAME**



4-(4-aminophenyl)sulfonylaniline

### **PROPERTIES**

- White or creamy white crystalline powder
- Odorless ,Slightly bitter taste.
- Soluble in alcohol, methanol, acetone, dilute hydrochloric acid. Practically insoluble in water.

### **STORAGE & STABILITY**

- Stable under recommended storage conditions.
- When heated to decomposition it emits very toxic fumes of /nitrogen and sulfur oxides.

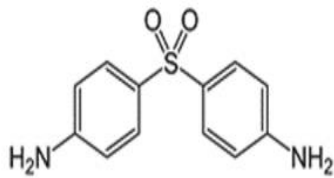
### **Uses**

- This medication is used to treat a certain type of skin disorder (dermatitis herpetiformis).
- It is also used with other drugs to treat Hansen's disease.
- This medication will not work for viral infections (e.g., common cold, flu).

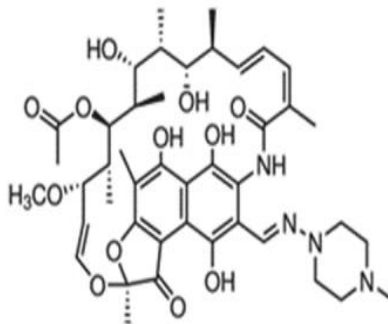
- Unnecessary use or misuse of any antibiotic can lead to its decreased effectiveness.

## Leprosy Multidrug Therapy (MDT)

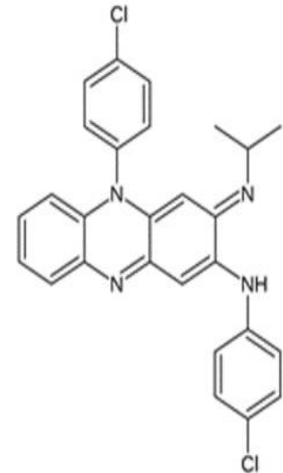
Dapsone



Rifampin

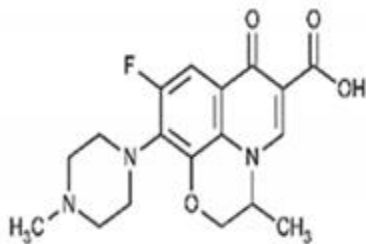


Clofazimine

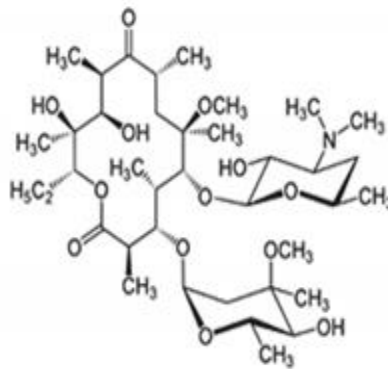


## Leprosy Second-line Drugs

Ofloxacin



Clarithromycin



Minocycline

