

Source

Ashutakar -

- **Glycyrrhizin** is the chief sweet-tasting constituent of *Glycyrrhiza glabra* (licorice) root.
- Structurally, it is a saponin used as an emulsifier and gel-forming agent in foodstuffs and cosmetics.
- Its aglycone is enoxolone assessed as a prodrug used in Japan to reduce the risk of liver cancer in people with chronic hepatitis C.
- It is 30 to 50 times as sweet as sucrose
- Pure glycyrrhizin is odorless.

Enoxolone

Enoxolone is a pentacyclic triterpenoid derivative of the beta-amyrin type obtained from the hydrolysis of glycyrrhizic acid, which was obtained from the herb licorice.

ISOLATION OF GLYCYRRHIZIN

The isolation of glycyrrhizin from glycyrrhiza is based on its solubility. Glycyrrhizin is soluble in hot water, alcohol, but slightly soluble in cold water and insoluble in ether.

✓ The three methods of isolation are:

- ✓ Acid precipitating method
- ✓ Alcohol extraction method
- ✓ Ammonia extraction method

Acid precipitating method:

1. weigh 50g licorice powder add 300ml water in the beaker and boil with stirring

2. Decant the supernant liquid
3. Filter the remaining residue and collect the filtrate
4. Adjust pH 2.8 by the addition of acid, Glycerrhizin precipitates out
5. Filter and collect the ppt
6. Wash the ppt with cold water to make it free from acid
7. Transfer the ppt to china dish and heat gently to remove the water content, shiny brown mass of glycerrhizin is seen.

#### ✓ Alcohol extraction method

1. wiegh 50g of powdered drug into 500ml beaker & add 100ml methanol mix it.
2. Add another 100ml methnol & left for 24hrs
3. Filter and collect the filtrate
4. Extract this methnolic extract with 3 portions of petroleum ether, subsequently with benzene, ethylacetate chloroium and solvent ether.
5. Transfer methnolic layer into china dish & evaporate on water bath to get glycerrhizin.

#### ✓ Ammonia extraction method

1. Glycerrhiza is extracted with hot water and filtered.
2. Filtrate is acidified with con H<sub>2</sub>SO<sub>4</sub> to pH2.8
3. Ppt is dissolved in dil.NH<sub>4</sub>OH and poured into acetone to ppt ammonium glycerrhizinate.
4. The ppt is dissolved in hot water and evaporated to get ammonium glycerrhizinate.

potent Immunomodulator  
 Anti-inflammatory  
 Hepatoprotect  
 Neuroprotect  
 Antimutagenic Agents  
 • peptic Ulcer