

# Pharmacologically Active Constituents 1 Sem5 Gen Dr. Amit Saha.

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# Steroids-Definition

- A **steroid** is an organic compound with four rings arranged in a specific molecular configuration. Examples include the dietary lipid cholesterol, the sex hormones estradiol and testosterone and the anti-inflammatory drug dexamethasone. **Steroids** include drugs used to relieve swelling and inflammation, such as prednisone and cortisone; vitamin D; Steroids have two principal biological functions: certain steroids (such as cholesterol) are important components of cell membranes which alter membrane fluidity, and many steroids are signaling molecules which activate steroid hormone receptors.

# Steroids-

- Digitoxin-Digitalis purpurea(Scrophulariaceae)
- Parts used- Dried Leaves
- Chief Components- Cardiac glycoside-digitoxin,gitoxin,gitaloxin
- Uses-Treatment of cardiac disorders,action on cardiac muscles.

# Digitalis purpurea



- Diosgenin-Dioscorea floribunda (Dioscoreaceae)
- Parts used- Tubers
- Chief Components- Saponin-Diosgenin
- Uses –Used in the production of sex hormones- testosterone, progesterone, corticosteroids, diuretic steroids, oral contraceptives.

# Dioscorea floribunda



Tannin-**Tannins** are polyphenolic substances found in many plants product of secondary metabolism. Its water-soluble nature allows easy extraction and is useful in various applications in the chemical and pharmaceutical industry.

- Catechin-Acacia catechu (Fabaceae)
- Parts used- Heartwood
- Chief Components- catechins, phlobatannin,quercitrin
- Uses- Used in medicine as an astringent, used in dyeing, tanning.



Resins- These are solid or semisolid amorphous fusible flammable natural organic substances that are usually transparent or translucent and yellowish to brown, are formed especially in plant secretions, are soluble in organic solvents (as ether) but not in water.

- Gingerol- Zingiber officinale(Zingiberaceae)
- Parts used- Rhizome
- Chief Components- Volatile oil- Cineole, Borneol, Zingiberol, Starch, Mucilage.
- Gingerol(oily liquid of homologous phenols)-causes pungency
- Uses- Carminative ,stimulant, antibacterial,antifungal.

# Zingiber officinale



- A **curcuminoid** is a linear diarylheptanoid(terpenoids), with molecules such as **curcumin** or derivatives of **curcumin** with different chemical groups that have been formed to increase solubility of curcumins and make them suitable for drug formulation. These compounds are natural **phenols** and produce a pronounced yellow liquor mainly contains oil, **resin** and more **curcuminoids**.

- **Curcuminoids- *Curcuma longa*(turmeric) (Zingiberaceae)**
- Parts used- Dried rhizome
- Chief Components- curcuminoid, curcumin, dihydrocurcumin, Volatile oil- Zinziberene
- Uses- Used in curry powder, sauces
- It has antihepatotoxic (Hepatoprotection or antihepatotoxicity is the ability of a chemical substance to prevent damage to the liver), choleric activity (Choleric substances are substances that increase the volume of secretion of bile from the liver as well as the amount of solids secreted ), so used for treating jaundice and hepatitis.

# Curcuma longa L.



# References

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