

RUTIN or VITAMIN P

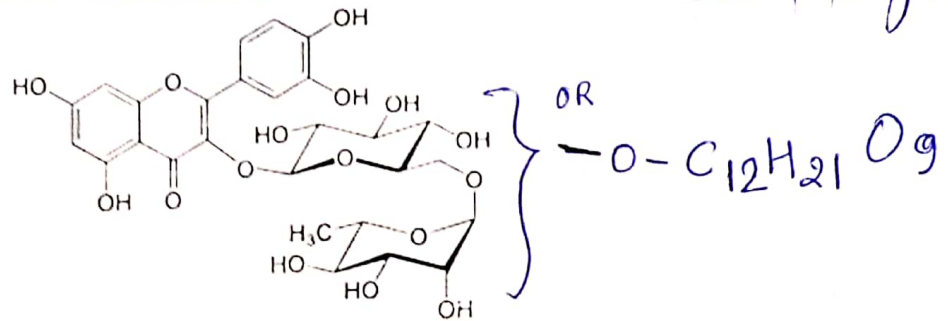
Hesperidin

(Rutoside, quercetin-3-O-rutinoside)  $C_{27}H_{30}O_{16}$

ca of Bigflavanol

(Rhamnoglucosidic)  
Quercetin

→ A polyphenolic Comp.



**Rutin**, is the glycoside combining the flavonol quercetin and the disaccharide rutinose ( $\alpha$ -L-rhamnopyranosyl-(1→6)- $\beta$ -D-glucopyranose).

The major sources of rutin for medical use include buckwheat, Japanese pagoda tree, and Eucalyptus macrorhyncha. Other sources of rutin include the leaves of several species of eucalyptus, lime tree flowers, elder flowers, hawthorn leaves and flowers, rue, St. John's Wort, *Ginkgo biloba*, apples, and other fruits and vegetables.

✓ People believe that rutin can strengthen blood vessels, so they use it for varicose veins, internal bleeding, hemorrhoids, and to prevent strokes due to broken veins or arteries (hemorrhagic strokes).

Rutin is also used to prevent a side effect of cancer treatment called mucositis. This is a painful condition marked by swelling and ulcer formation in the mouth or lining of the digestive tract. In combination with the proteins trypsin and bromelain, rutin is also used for osteoarthritis.

Rutin is sometimes used on the skin to reduce wrinkles.

Rutin ⇒ microcrystalline greenish yellow tasteless powder, Soluble in methanol, Propyl alcohol, pyridine & sol<sup>n</sup> of Alkali hydroxides.

use ⇒

- ↑ elasticity of Blood Vessels & ↑ Capillary fragility
- Retinal Haemorrhages

# Isolation of Rutin

20 gm powder drug  
extracted with 80% ethanol  
↓  
filter & then add 25 ml water  
↓  
further extracted with  
Pet ether &  $CHCl_3$   
↓  
Separate Aq. layer &  
keep in cold for 72 hr  
↓  
Yellow ppt  
↓  
washed with  $CHCl_3$  : EA : ethanol  
(50:25:25)  
↓  
ppt dissolved in  
HCl ~~and~~ methanol  
↓  
filter it  
↓  
evaporate to dryness  
↓  
Yellow powder  
(Rutin)

## Test

- ① Rutin +  $FeCl_3$  → Dark green clear
- ② " + Lead Acetate → orange yellow ppt