

## → Lectin

- Carbohydrate binding protein
- Agglutinate cells or precipitate glycoconjugates
- ~~Number of lectins~~

- Number of lectins are glycoprotein
- contain at least 2 sugar binding sites
- protein with only one sugar binding site will not agglutinate cells or precipitate glycoconjugates.

e.g. Asialoglycoprotein receptor

- glycoprotein - many peptide hormone not plasma protein
- Treatment of protein with neuraminidase



removal of N terminal acetylneuraminic acid moiety



expose subterminal galactose residue



this asialoglycoprotein is cleared from circulation very much faster than intact glycoprotein.

- Liver cell contain asialoglycoprotein receptor that recognize galactose moiety of many desialylated plasma proteins, leading to their endocytosis & catabolism.

- plant lectin - phytohemagglutinins - agglutinate RBC by reacting with cell surface glycoprotein.

→ Undenatured lectins in undercooked legumes can lead to stripping of intestinal mucosa by agglutinating mucosal cell.

→ Use — To purify glycoprotein

↓  
→ As tools for probing glycoprotein profile of cell surface

→ As reagent for generating mutant cells deficient in certain enzyme involved in biosynthesis of oligosaccharide chain.