



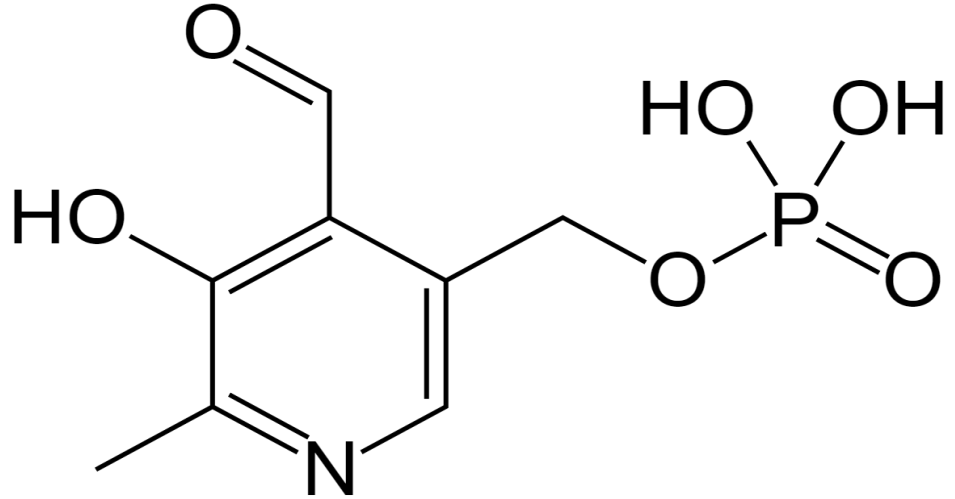
# Vitamin B6: Pyridoxine

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# Vitamin B6

Vitamin B6 has many health benefits including better circulation, stronger immune system, Better mood, and etc.

The Formula for Vitamin B6 is:



# History of Vitamins

Casimir Funk in 1912 originally coined the term “vitamine” in an article published by him.

Elmer Verner McCollum in 1913 discovered the first vitamin with the help of rats. The substance found in butter and egg yolk which McCollum dubbed “fat-soluble factor A.”

McCollum working with a Colleague Marguerite Davis they were able to transfer “fat-soluble A’ from butterfat to olive oil.



# History of Vitamins

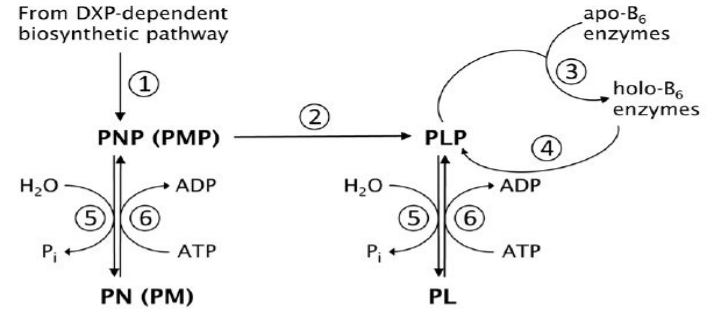
“Water-soluble B” was the name given to the anti-beriberi vitamin that Funk found in the husks left behind after rice polishing. The substance found in citrus fruits was called “water-soluble C.” Then a second fat-soluble substance was recognized by McCollum and his associate Nina Simmonds in the early 1920s and became Vitamin D.



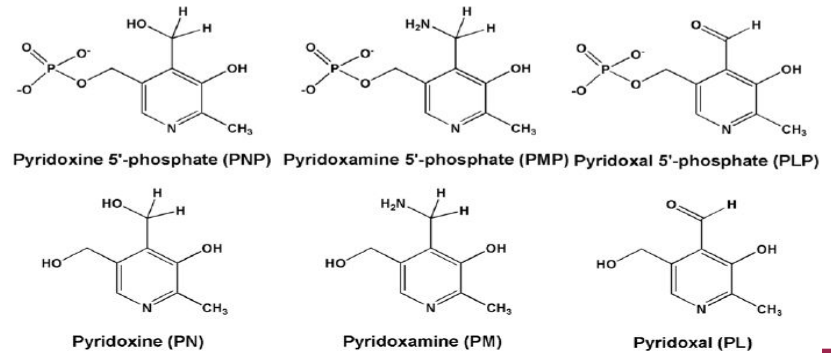
# Mechanism of Vitamin B6

Vitamin B6 is a coenzyme in the folate metabolism pathway. Its phosphorylated metabolites are involved in amino acid metabolism, the transsulfuration pathway of homocysteine to cysteine, and glycogen phosphorylase activity which mobilizes glucose from glycogen.

A

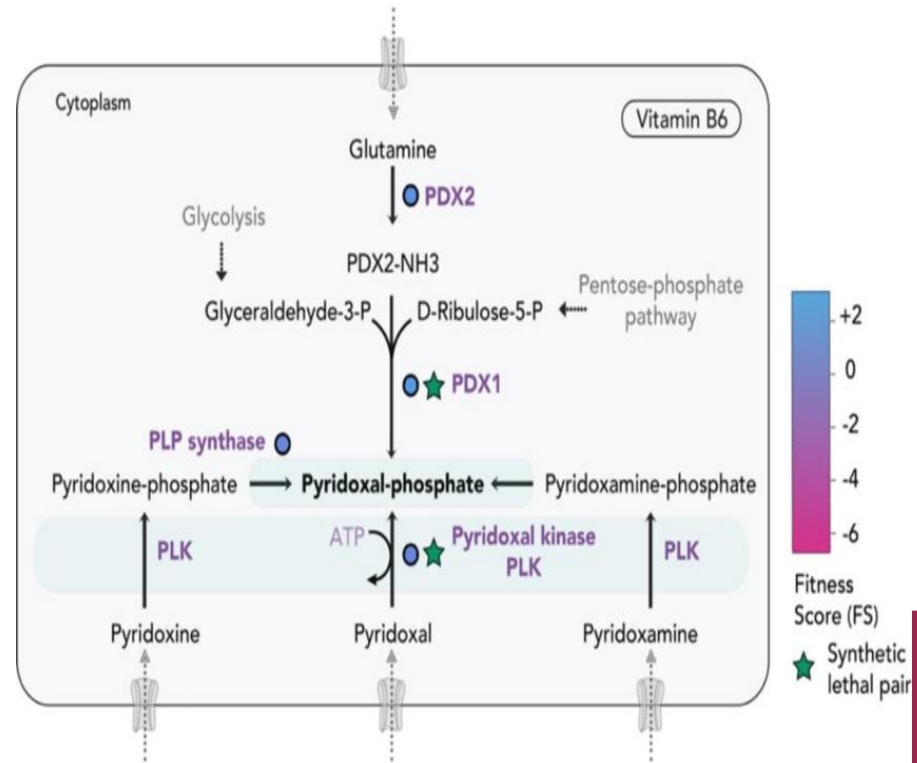


B

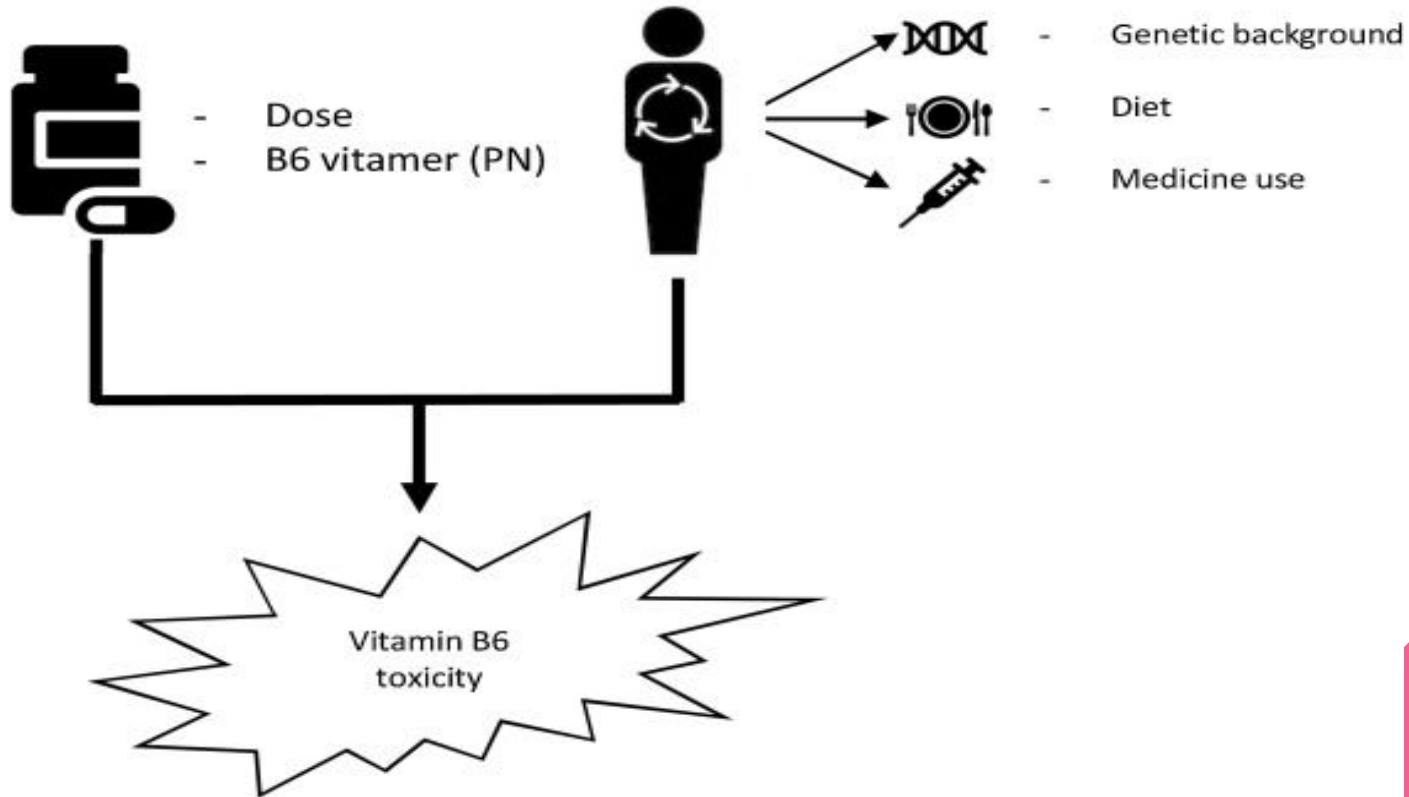


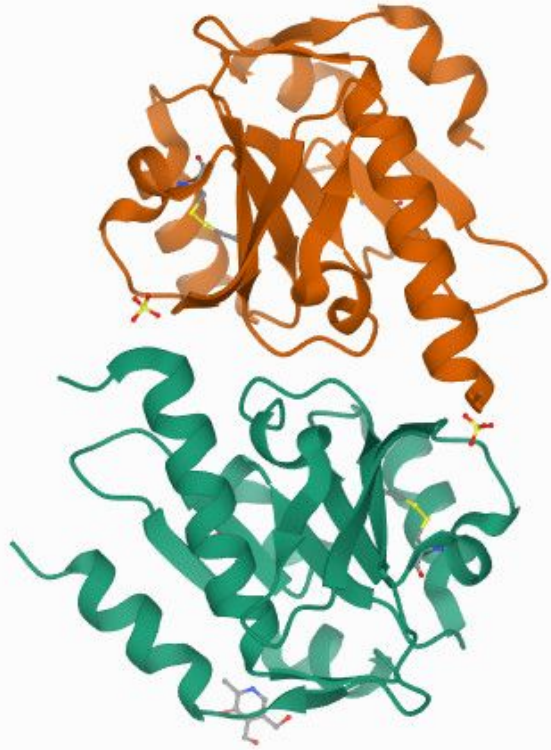
# Synthetic Pathway Of Vitamin B6

In plants, fungi and prokaryotes, vitamin B6 vitamers are produced via the de novo biosynthetic pathway that ultimately leads to the synthesis of the most active form pyridoxal 5'-phosphate (PLP) via a heterodimer complex made up of two pyridoxal biosynthesis proteins that belong to highly conserved protein families.



# Pharmacokinetics of Vitamin B6



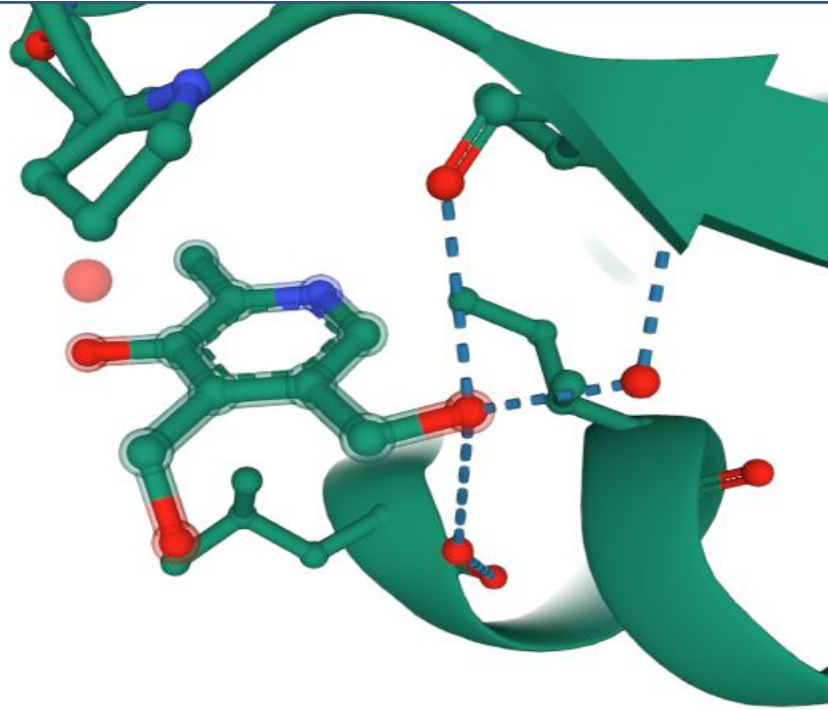


## 3D Model VB6-Bound Protein



# Ligand Interaction of VB6-bound Protein

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# Credit

[Vitamins Come to Dinner | Science History Institute](#)

[Vitamin B6 | Memorial Sloan Kettering Cancer Center \(mskcc.org\)](#)

[Frontiers | Genes of the de novo and Salvage Biosynthesis Pathways of Vitamin B6 are Regulated under Oxidative Stress in the Plant Pathogen Rhizoctonia solani | Microbiology \(frontiersin.org\)](#)

Other Pictures are from Google Images

[3D View: 5EB3 \(rcsb.org\)](#)

