

Enzyme cofactors

Under construction / Forgotten

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Last update: Saturday, 17 Dec 2022 at 8.12 pm.

This article has been translated from WikiSkripta; ready for the **editor's review**.

Metal ions and trace elements

Cofactor	Examples of enzymes
Zn ²⁺	Peptidases, alcohol dehydrogenase
Mg ²⁺	ATP dependent enzymes, phosphohydrolases
Mn ²⁺	Superoxide dismutase, arginase
Fe ²⁺ / Fe ³⁺	Cytochromes, catalase, peroxidases
Cu ²⁺	Cytochrome oxidase, amino oxidase
Mo ²⁺	Xanthine dehydrogenase

Organic substances

Cofactors of oxidoreductases

Cofactor	Default vitamin	Location/Function
NAD ⁺ , NADP ⁺	<u>Nicotinic acid</u>	Respiratory chain, MK synthesis
FAD, FMN	<u>Riboflavin</u> (B ₂)	Breathing Chain
Ubiquinone/ubiquinol		Respiratory chain
Hem		Cytochromes

Transferase Cofactors

Cofactor	Default vitamin	Location/Function
ATP, GTP	<u>Thiamine</u> (B ₁)	Transfer of a phosphate residue
TDP (thiamine diphosphate)	Thiamin (B ₁)	Transfer of carbon fragments (oxidative decarboxylation)
PALP (pyridoxal phosphate)	<u>Pyridoxine</u> (B ₆)	Transfer of -NH ₂ groups (transamination), decarboxylation of amino acids
THF (tetrahydrofolate)	<u>Folate</u> (folic acid)	Transfer of one-carbon fragments
CoA (coenzyme A)	<u>Pantothenate</u>	Acyl transfer
PAPS (phosphoadenosine phosphosulfate)		Sulfate transfer
SAM (S-adenosylmethionine)		Methylation
B ₁₂ -complex	<u>Cobalamin</u> B ₁₂	Transfer of the CH ₃ group

Cofactors of lyases

Cofactor	Default vitamin	Location/Function
PALP (pyridoxal phosphate)	<u>Pyridoxine</u> (B ₆)	Decarboxylation

Cofactors of ligases

Cofactor	Default vitamin	Location/Function
ATP		
Carboxybiotin	<u>Biotin</u>	CO ₂ transfer (carboxylation)

