L-Monoamine oxidases (MAO) (EC 1.4.3.4) are a family of enzymes that catalyze the oxidation of monoamines.

They are found bound to the outer membrane of mitochondria in most cell types in the body. The enzyme was originally discovered by Mary Bernheim in the liver and was named tyramine oxidase.

They belong to the protein family of flavin-containing amine oxidoreductases.

In humans there are two types of MAO: MAO-A and MAO-B.

Both are found in neurons and astroglia.

Outside the central nervous system:

MAO-A is also found in the liver, pulmonary vascular endothelium, gastrointestinal tract, and placenta.

MAO-B is mostly found in blood platelets.

see Monoamine oxidase A

see Monoamine oxidase B.

Function

Monoamine oxidases catalyze the oxidative deamination of monoamines. Oxygen is used to remove an amine group from a molecule, resulting in the corresponding aldehyde and ammonia.

Monoamine oxidases contain the covalently bound cofactor FAD and are, thus, classified as flavoproteins.

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