Molybdenum enzymes with novel reactivities

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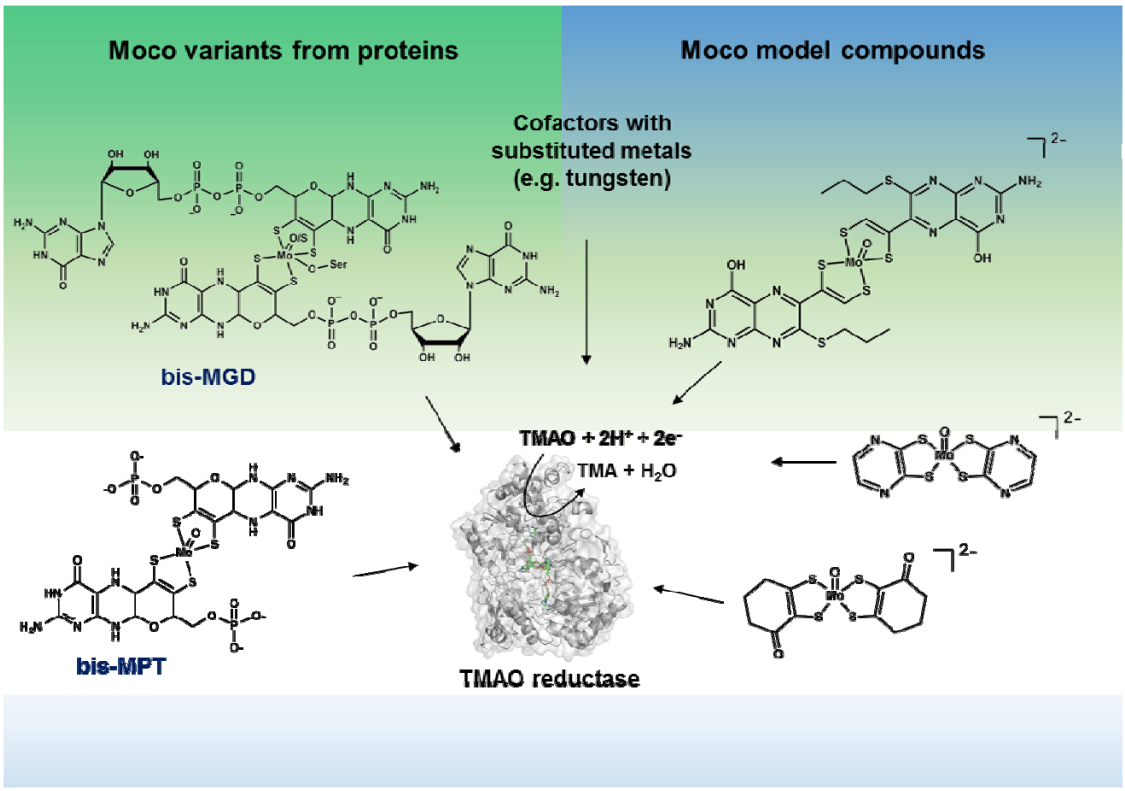

E. coli TMAO reductase (TorA) is a well-known member of the DMSO reductase family of molybdenum cofactor (Moco) containing enzymes and a perfect model enzyme to study Moco insertion as it contains the bis-molybdopterin-guanine-dinucleotide cofactor as sole prosthetic group. Various natural and *in vitro* synthesized/artificial cofactors were inserted into apoTorA to study the cofactor binding and the resulting enzymatic activity. Among other findings, these studies revealed the importance of the guanosine nucleotides for the binding of the cofactor to the enzymatic pocket of apoTorA.