

Mo and W Enzymes: Nitrate Reductases and Formate Dehydrogenases

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Molybdenum and Tungsten are second and third row transition element, respectively, which are found as mononuclear form in the active site of a diverse group of enzymes that generally catalyze oxygen atom transfer reactions. Mononuclear Mo and W containing enzymes have been classified into families: xanthine oxidase, DMSO reductase and sulfite oxidase. The proteins of the DMSO reductase family present the wider diversity of properties among the members and our knowledge on this family was highly increased with the study of the enzymes nitrate reductase and formate dehydrogenase obtained from different sources.

We discuss, in this communication, the information of the better-characterized examples for these two types of enzymes. We briefly summarize, also, the few cases reported so far for enzymes that can function either with Mo or W at the active site.

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