Towards the crystal structure of the Isoquinoline Oxidoreductase from *Brevundimonas diminuta*

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Isoquinoline oxidoreductase from *Brevundimonas diminuta* (IOR) is a mononuclear molybdenum-containing enzyme that catalyzes the conversion of isoquinoline to 1-oxo-1,2-dihydroquinoline. The reaction is a two-step oxo-transfer process generating two electrons. The enzyme is member of the xanthine oxidase (XO) family of proteins, which all consist of a large subunit or domain containing the Mo atom coordinated to a pyranopterin cofactor and a small subunit/domain containing two Fe_2S_2 clusters that transport electrons from the molybdenum active center. Several structures have been solved of proteins of the XO family, including the XO from bovine milk and *Rhodobacter capsulatus*. The IOR differs in mechanistic as well as primary structure from the other members of the family. Purification of the IOR has been described [1] but reproducibility of the published method is not optimal. We have improved the purification method as well as its reproducibility. We have been able to obtain crystals and the progress towards obtaining the crystal structure of the enzyme will be discussed.

[1] Lehmann, M.; Tshisuaka, B.; Fetzner, S.; Roger, P.; Lingens, F. (1995), *J. Biol. Chem.* **269**, 11254-60.