In-Vitro Reconstitution of Sulfite Reductase from *Pseudomonas aeruginosa*

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Recent work has established a link between a ferredoxin:NAD(P)H oxidoreductase (FprA) and sulfite assimilation in members of the genus *Pseudomonas*. This suggested that FprA is a component of a novel sulfite reductase enzyme. That hypothesis is consistent with the fact that only one component of the well-characterized E. coli a8β4 sulfite reductase has been identified in *Pseudomonas* genomes; i.e the β siroheme subunit CysI is present but not the a flavoprotein subunit CysJ. This led to the hypothesis that FprA is a component of a novel sulfite reductase enzyme. Our aim is to test that hypothesis by in-vitro reconstitution using the purified proteins CysI and FprA. We have successfully overexpressed and purified FprA from *Pseudomonas aeruginosa*. The strategy for production of purified CysI has been complicated by the requirement for concomitant expression of CysG (siroheme synthase). We are also investigating the possibility that a downstream, overlapping reading frame (PA1837) may also be necessary for functional CysI production.