

From the limited data available the *Streptomyces* cytochrome appears to be most similar to cytochrome b_5 of liver microsomes⁶ and *Cecropia*^{7,8}. A more definitive characterization of its properties and physiological role in *S. fradiae* awaits further purification. Such studies are now underway.

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Microsomal cytochrome reductase*

Liver microsomes contain a reductase specific for DPNH and microsomal cytochrome¹. This enzyme has now been isolated in an essentially homogeneous form from calf liver by a new method. Release of the enzyme from the particles is achieved by the action of snake venom. Further purification is carried out by ammonium sulfate fractionation and column chromatography.

The reductase preparations have a flavo-protein spectrum with absorption maxima in the oxidized form at 273, 390, 461, and 485 $m\mu$. On complete reduction with either excess DPNH or $\text{Na}_2\text{S}_2\text{O}_4$, the absorption peaks at 461 and 485 $m\mu$ disappear. The millimolar absorption coefficients at 461 $m\mu$ are 10.2 and 2.6 for the oxidized and reduced forms, respectively. Flavin analysis², chromatography³, reactivation of D-amino acid oxidase apoenzyme⁴, and reversible splitting of the coenzyme establish that the prosthetic group is flavin adenine dinucleotide. The minimum molecular weight, based on flavin and protein analysis, is $42,000 \pm 2,000$. The molecular weight from sedimentation, diffusion and partial specific volume data is 38,400. Complete inactivation of the reductase can be obtained by titration of one essential -SH group with *para*-chloromercuribenzenesulfonate.

Microsomal cytochrome, ferricyanide and indigotetrasulfonate are reduced in the reductase system but cytochrome *c* is inert. Reduction of all three acceptors is competitively inhibited by pyrophosphate.

When the reductase was analyzed for metals by various micro color reactions⁵ and by emission spectra, Fe, Mo, Co, Ni, Zn, Cu, Mn, Hg, Pb and Ag were found to be absent. Approximately 2 moles Mg/mole flavin are present.

A detailed report of this work has been submitted for publication.

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