

## Product Information

### Cytochrome P450 Reductase, human recombinant, expressed in baculovirus infected insect cells

Catalog Number **C8113**

Storage Temperature  $-70^{\circ}\text{C}$

EC 1.6.2.4

Synonym: NADPH:Ferrihemoprotein oxidoreductase

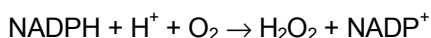
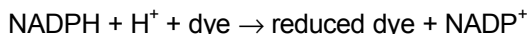
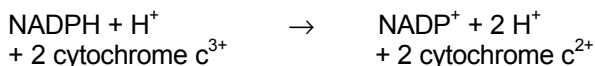
#### Product Description

This human, recombinant protein is isolated from insect cells infected with a baculovirus containing the cDNA for human cytochrome P450 reductase. The molecular mass is  $\sim 78.2$  kDa. The enzyme is purified by affinity chromatography.<sup>1</sup>

The main role of the cytochrome P450 enzyme system is participation in the detoxification of xenobiotics in the liver.<sup>2</sup> It also participates in the activation of procarcinogens and the metabolism of other endogenous substrates such as steroids. Cytochrome P450 reductase catalyzes the reduction of hemethiolate-dependent monooxygenases such as EC 1.14.14.1 (unspecified xenobiotic monooxygenases)<sup>3</sup> and is part of the microsomal hydroxylating system. This reductase is a flavoprotein containing FMN and FAD.<sup>4,5</sup> It also reduces cytochrome  $b_5$  and cytochrome c.

The use of purified cytochrome P450 reductase allows the flexibility to optimize component ratios of cytochrome P450, cytochrome P450 reductase, and cytochrome  $b_5$  for specific applications. It is typically used at a variety of ratios ranging from 0.5–5:1 (cytochrome P450 reductase:cytochrome P450) for *in vitro* reconstitution assays.

The enzyme catalyzes the following reactions:



The product is supplied in a solution containing 100 mM potassium phosphate, pH 7.7, 0.1 mM EDTA, 0.2 mM DTT, and 20% (v/v) glycerol.

Purity:  $\geq 90\%$  (SDS-PAGE)

Activity:  $\geq 30$  units/mg protein

Unit Definition: One unit will cause the reduction of 1.0  $\mu\text{mole}$  of cytochrome c by NADPH per minute at pH 7.4 at  $37^{\circ}\text{C}$ .

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### Storage/Stability

Store the product at  $-70^{\circ}\text{C}$ .

#### References

1. Yasukochi, Y., and Masters, B.S., J. Biol. Chem., **251**, 5337-5344 (1976).
2. Backes, W.L., In Cytochrome P450, Handbook of Experimental Pharmacology, Vol. 105, Schenkman, J.B., and Greim, H., eds., Springer-Verlag (Berlin Heidelberg: 1993), pp 15-34.
3. Enzyme Nomenclature, IUBMB, Academic Press, (1992).
4. Shepard, E.A. et al. Analytical Biochem., **129**, 430 (1983).
5. Masters, B.S.S. et al., Methods in Enzymology, **10**, 565 (1967).

RBG,MAM 06/11-1

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