



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax 800-325-5052 • (314) 286-3828
email: sigma-techserv@sial.com
Internet: http://www.sigma.sial.com

Product Information

CYTOCHROME P450 REDUCTASE

From Rabbit Liver, induced with
Phenobarbital

Product Number **C4839**

Storage Temperature -20° C

EC# 1.6.2.4

Synonyms: NADPH:Ferrihemoprotein oxidoreductase

Product Description

Solution in 50% glycerol containing 30 mM potassium phosphate, pH 7.7, and 0.1 mM EDTA

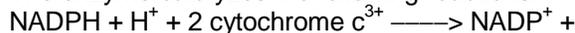
Storage/Stability

Store at -20°C. The enzyme is stable for at least 4 weeks at 4°C.

Product Profile

The main role of the Cytochrome P450 enzyme system is participation in the detoxification of xenobiotics in the liver.¹ It also participates in the activation of procarcinogens and the metabolism of other endogeneous substrates such as steroids. Cytochrome P450 reductase catalyzes the reduction of hemethiolate-dependent monooxygenases such as EC 1.14.14.1 (unspecified xenobiotic monooxygenases²) and is part of the microsomal hydroxylating system. This reductase is a flavoprotein containing FMN and FAD.^{3,4} The enzyme was estimated by SDS-PAGE to have a molecular weight of about 80 kD.⁵ It also reduces cytochrome b₅ and cytochrome c.

The enzyme catalyzes the following reactions:



Unit Definition: One unit will cause the reduction of 1.0 μmole of cytochrome c (Product No. C2506) by NADPH per minute at pH 7.7 at 30°C.

References

1. Backes, W.L., In "Cytochrome P450", *Handbook of Experimental Pharmacology*, Vol. 105, Schenkman, J.B. and Greim, H. Eds., pp 15-34, Springer-Verlag, Berlin Heidelberg, (1993).
2. Enzyme Nomenclature, IUBMB, Academic Press, (1992).
3. Shepard, E.A. et al. *Analytical Biochem.*, 129, 430 (1983).
4. Masters, B.S.S. et al., *Methods in Enzymology*, 10, 565 (1967).
5. van der Hoeven, T.A. and Coon, M.J., *J. Biol. Chem.*, 249, 6302 (1974).

MAM 9/23/98

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.