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ProductInformation

CYTOCHROME P450 CYP2C19 ISOZYME
Human, Recombinant

Product Number **C 5607**
Storage Temperature –70 °C

Product Description

Human recombinant protein produced from over-expressed plasmid in *E. coli*. This cytochrome P450 isozyme has been modified at the N-terminal to allow expression in *E. coli*, but these changes do not cause any significant differences in substrate specificity.

The microsomal cytochrome P450 enzymes, found primarily in the endoplasmic reticulum of liver tissue, catalyze the oxidative metabolism of xenobiotics. This metabolism is the initial step in the biotransformation and elimination of a wide variety of drugs and environmental pollutants from the body. These reactions are achieved through a mixed monooxygenase system with the general EC number of 1.14.14.1.[1]

The advantages of using a purified cytochrome P450 enzyme include the lack of interfering activities present in microsomal or tissue samples, and the flexibility to optimize component ratios of cytochrome P450, NADPH-P450 reductase, and cytochrome b_5 for specific applications.

CYP2C19 is a drug-metabolizing isoform with a preference for neutral or weakly basic moderately lipophilic substrates. Omeprazole and isoniazid selectively inhibit CYP2C19 isoforms.

The cytochrome P450 enzymes range in molecular weight between 45 to 60 kDa.

Vial Content: 150 µg protein in a solution containing 20 mM potassium phosphate buffer, (pH 7.4), 1.0 mM EDTA, 0.1 mM DTT, and 20% (v/v) gycerol.

Cytochrome P450 Content: minimum 10 nanomoles of P450 (spectral analysis)/mg protein.

Purity: ≥70% (SDS-PAGE)

Precautions and Disclaimer

In general, ≤1% of the total reaction volume may be organic solvent. Any solvent at a concentration between 1 and 5% will have a serious effect on P450 activity. If it is necessary to use concentrations >1%, acetonitrile should be used since it has less of an effect on substrate metabolism. DMSO should never be used, since a concentration as low as 0.2% may inhibit certain types of cytochrome P450 activity.

This product is for laboratory research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

1. Quickly thaw at 37 °C using a water bath. Keep on ice until ready to use.
2. If not using entire contents, freeze in working aliquots to minimize freeze-thaw cycles.
3. Store aliquots at –70 °C.

Storage/Stability

Store at –70 °C. The product as supplied is stable for at least 18 months at –70 °C.

References

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