

Sacchrosomes - Human Cytochrome P450s in a Yeast Expression System.

Human CYP1A1 + P450 Reductase

Product overview

Catalogue Number CYP1A1-1 Lot Number 1A1-10-07

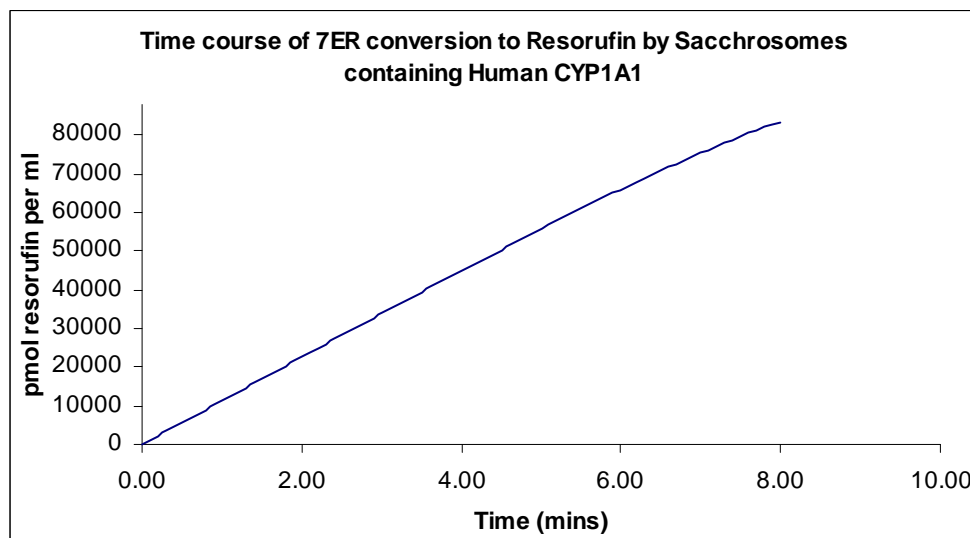
Human CYP1A1 is found in both hepatic and extra-hepatic tissues and is implicated in the activation of pro-carcinogens such as Polycyclic Aromatic Hydrocarbons.

Membranes consist of Human Cytochrome P450 1A1 and P450 Reductase enzymes bound within a yeast microsomal fraction.

Product Data

Pack Size	0.5nmol
Volume per tube	0.5 ml
Cytochrome P450 Content	95 pmol.mg ⁻¹
Protein Concentration	10.5 mg.ml ⁻¹
Specific Activity	887.5 pmol Resorufin.min ⁻¹ . pmol P450 ⁻¹
Cytochrome P450 Reductase Activity	1444 nmol MTT reduced.min ⁻¹ .mg protein ⁻¹

Fluorometric assay of CYP1A1- Graph depicts product formation (Resorufin) in pmol over time in min.



Specific Activity

CYP1A1 activity assay is performed in a microplate-based fluorometric assay with 7-ethoxyresorufin as substrate in a 0.1M phosphate buffer (pH 7.4). Excitation at 530 nm and emission at 590nm, temperature held at 37°C.

0.1 ml of reaction mix contains 1.3mM NADP⁺, 3.3 mM Glucose-6-phosphate, 3.3 mM Magnesium Chloride, 0.04U of Glucose-6-phosphate dehydrogenase and 5 µM of 7-ethoxyresorufin. 1.5 pM of Sacchosome 1A1 is added per reaction.

The conversion of 7-ethoxyresorufin substrate to resorufin product is measured over time. Values converted using a standard curve of resorufin.

Cytochrome P450 Content

CO binding assay performed in a cuvette format using a dual beam spectrophotometer scanning from 500 to 400nm. Spectral difference of microsomes measured in a phosphate glycerol buffer with the addition of sodium dithionite with and without CO perfusion.

Cytochrome P450 Reductase Activity

Reduction of MTT by Cytochrome P450 Reductase utilising a regenerating system in a phosphate buffer was measured over time.

Protein Concentration

Total protein was measured using a microplate-based Bradford assay method with BSA as a standard.

Product Use

For best stability thaw on ice, aliquot suitable quantities for your studies and store at -80°C.

Microsomes are supplied in a buffer containing Water, Tris, EDTA and Glycerol which are unlikely to interfere with most assays.

Studies indicate product stability at -80°C for at least 12 months.

Safety

This product is not suspected to contain any pathogenic or hazardous materials. However, since these properties have not been investigated handle with care in accordance to your normal laboratory practices.

This product is only intended for *in vitro* research use and is not licensed as a drug, therapeutic or diagnostic tool for humans or animals.

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