CREATIVE BIOMART®
Assay Kit

Microsome Isolation Kit

Product Information

Cat.No. Kit-2158

Product Overview

Microsome Isolation Kit enables preparation of active microsomes in about one hour, without the need for ultracentrifugation or sucrose gradient fractionation. The kit contains sufficient reagents for 50 isolation procedures, yielding microsomes from roughly 25 grams of tissue or cultured cells.

Size

50 assays

Description

Microsomes are spherical vesicle-like structures formed from membrane fragments following homogenization and fractionation of eukaryotic cells. The microsomal subcellular fraction is prepared by differential centrifugation and consists primarily of membranes derived from the endoplasmic reticulum (ER) and Golgi apparatus. Microsomes isolated from liver tissue are used extensively in pharmaceutical development, toxicology and environmental science to study the metabolism of drugs, organic pollutants and other xenobiotic compounds by the cytochrome P450 monooxidase (CYP) enzyme superfamily. Microsomal preparations are an affordable and convenient in vitro system for assessing Phase I biotransformation reactions, as they contain all of the xenobiotic-metabolizing CYP isozymes and the membrane-bound flavoenzymes (such as NADPH P450-Reductase and cytochrome b5) required for function of the multicomponent P450 enzyme system.

Applications

Convenient and fast isolation of microsomal fraction from animal tissuesAssessment of CYP-mediated drug metabolism and xenobiotic biotransformationProtein profiling of microsomal membrane proteins by SDS-PAGE and Western blot

Storage

Store kit at -20°C. Read entire protocol before performing the isolation procedure.Homogenization Buffer and Storage Buffer: Buffers may be stored at -20°C or 4°C. Keep buffers on ice while in

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use.Protease Inhibitor Cocktail: Resuspend the lyophilized Protease Inhibitor Cocktail in 250 µl anhydrous DMSO (not provided) (500Xstock solution) and store at -20°C.

Kit Components

Homogenization Buffer: 80 mlStorage Buffer: 20 mlProtease Inhibitor Cocktail: 1 vial

Compatible Sample Types

• Mammalian glands and soft tissues such as liver, spleen, lungs etc.• Cultured eukaryotic cell lines such as HepG2 human hepatic carcinoma cells

Features & Benefits

• Simple & convenient protocol• The kit provides unique formulations of ready-to-use buffers and reagents to isolate microsomes without the need for ultracentrifugation or sucrose gradient fractionation

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