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ProductInformation

S9 from Liver, Pooled
from male rat (Sprague-Dawley)

Product Number **S 2067**
Storage Temperature –70 °C

Product Description

This product is a buffered solution containing the S9 fraction from a pool of livers from male rats (Sprague-Dawley).

Many xenobiotics, neurotransmitters, steroids, and other hormones are metabolized by sulfate conjugation, a reaction catalyzed by the class of sulfotransferase enzymes. The common sulfate group donor is adenosine 3'-phosphate 5'-phosphosulfate.

Cytochrome P450 proteins are heme-containing enzymes responsible for maintaining both lipid homeostasis and detoxification of lipid-soluble drugs and xenobiotics. Thus, cytochrome P450 is involved in the biosynthesis and metabolism of steroids, bile acids, fatty acids, prostaglandins, leukotrienes, biogenic amines, and retinoids.

The product is supplied in a solution containing 50 mM Tris-HCl, pH 7.5, with 2 mM EDTA and 150 mM KCl. The protein content is a minimum of 20 mg/ml and is reported on the lot specific Certificate of Analysis (C of A). Each vial contains 1.0 ml of the preparation. Enzyme activities are also reported on the lot specific C of A.

Precautions and Disclaimer

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

Storage/Stability

The product is shipped on dry ice and it is recommended to store the product at –70 °C. If not using the entire contents, aliquot to minimize freeze-thaw cycles.

Product Profile

Sulfotransferase Activity:
Determined as 7-hydroxycoumarin sulfotransferase activity. Incubations were conducted at 0.4 mg/ml of S9 protein in 100 mM Tris, pH 7.5, 0.1 mM adenosine 3'-phosphate 5'-phosphosulfate, and 25 µM 7-hydroxycoumarin as substrate for 10 minutes at 37 °C. One unit will produce 1 picomole of 7-hydroxycoumarin sulfate per minute at pH 7.5 at 37 °C.

Cytochrome P450 Activity:
Determined as 6β or 16α-testosterone hydroxylase activity. Incubations were conducted at 0.5 mg/ml of S9 protein in 100 mM potassium phosphate, pH 7.4, 3.3 mM $MgCl_2$, and 200 µM testosterone as substrate for 10 minutes at 37 °C with an NADPH generating system (1.3 mM NADP, 3.3 mM glucose 6-phosphate and 0.4 units/ml of glucose 6-phosphate dehydrogenase). One unit will produce 1 picomole of 6β-hydroxytestosterone or 16α-hydroxytestosterone per minute at pH 7.4 at 37 °C.

References

1. Tulik, G.R., et al., Inhibition of Bovine Phenol Sulfotransferase (bSULT1A1) by CoA Thioesters. J. Biol. Chem., **277**, 39296 - 39303 (2002).
2. Handschin, C., et al., Cholesterol and Bile Acids Regulate Xenosenor Signaling in Drug-mediated Induction of Cytochromes P450. J. Biol. Chem., **277**, 29561-29567 (2002).

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