SANTA CRUZ BIOTECHNOLOGY, INC.

mEH (17): sc-135984

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Epoxide hydrolases (EHs) are biotransformation enzymes that catalyze the hydrolysis of arene and aliphatic epoxides to less reactive and more water soluble dihydrodiols by the *trans* addition of water. The enzymatic hydration is essentially irreversible and produces mainly metabolites of lower reactivity that can be conjugated and excreted, and, therefore, are generally regarded as detoxifying. Microsomal EH (mEH) is one of many enzymes involved in the metabolism of endogenous and exogenous toxicants such as tobacco-derived carcinogens. mEH exhibits a broad substrate specificity, while the soluble EH (sEH) is an enzyme with a "complementary" substrate specificity to mEH. The mEH protein is encoded by the EPHX1 gene, which maps to chromosome 1q42.12. Polymorphism of the EPHX1 gene is a risk factor ovarian cancer and hepatocellular carcinoma.

REFERENCES

1. Lancaster, J.M., et al. 1996. Microsomal epoxide hydrolase polymorphism as a risk factor for ovarian cancer. Mol. Carcinog. 17: 160-162.
2. Seidegard, J. and Ekstrom, G. 1997. The role of human glutathione transferases and epoxide hydrolases in the metabolism of xenobiotics. Environ. Health Perspect. 105: 791-799.

CHROMOSOMAL LOCATION

Genetic locus: EPHX1 (human) mapping to 1q42.12; Ephx1 (mouse) mapping to 1 H4.

SOURCE

mEH (17) is a mouse monoclonal antibody raised against amino acids 13-125 of mEH of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

mEH (17) is recommended for detection of mEH of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for mEH siRNA (h): sc-40539, mEH siRNA (m): sc-40540, mEH shRNA Plasmid (h): sc-40539-SH, mEH shRNA Plasmid (m): sc-40540-SH, mEH shRNA (h) Lentiviral Particles: sc-40539-V and mEH shRNA (m) Lentiviral Particles: sc-40540-V.

Molecular Weight of mEH: 50 kDa.

Positive Controls: mEH (h): 293T Lysate: sc-111523, human liver extract: sc-363766 or Hep G2 cell lysate: sc-2227.

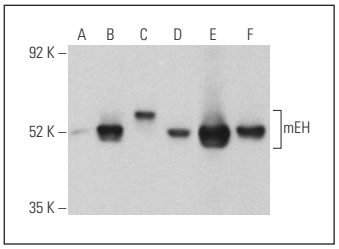
RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

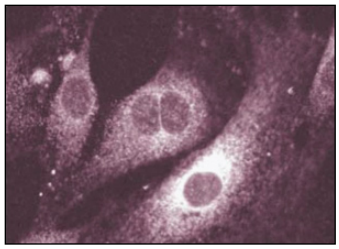
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



mEH (17): sc-135984. Western blot analysis of mEH expression in non-transfected 293T: sc-117752 (**A**), human mEH transfected 293T: sc-111523 (**B**), mEH transfected 293T: sc-170635 (**C**) and Hep G2 (**D**) whole cell lysates and human adrenal gland (**E**) and human liver (**F**) tissue extracts. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



mEH (17): sc-135984. Immunofluorescence staining of NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Su, S. and Omiecinski, C.J. 2014. Sp1 and Sp3 transcription factors regulate the basal expression of human microsomal epoxide hydrolase (EPHX1) through interaction with the E1b far upstream promoter. Gene 536: 135-144.
2. Su, S., et al. 2014. Intronic DNA elements regulate Nrf2 chemical responsiveness of the human microsomal epoxide hydrolase gene (EPHX1) through a far upstream alternative promoter. Biochim. Biophys. Acta 1839: 493-505.
3. Edin, M.L., et al. 2018. Epoxide hydrolase 1 (EPHX1) hydrolyzes epoxyeicosanoids and impairs cardiac recovery after ischemia. J. Biol. Chem. 293: 3281-3292.
4. Jamieson, K.L., et al. 2021. Soluble epoxide hydrolase in aged female mice and human explanted hearts following ischemic injury. Int. J. Mol. Sci. 22: 1691.
5. Cheng, Y.S., et al. 2021. A proteome-wide map of 20(S)-hydroxycholesterol interactors in cell membranes. Nat. Chem. Biol. 17: 1271-1280.
6. Sosnowski, D.K., et al. 2022. Changes in the left ventricular eicosanoid profile in human dilated cardiomyopathy. Front. Cardiovasc. Med. 9: 879209.
7. Richter, F.C., et al. 2023. Adipocyte autophagy limits gut inflammation by controlling oxylipin and IL-10. EMBO J. E-published.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.