SANTA CRUZ BIOTECHNOLOGY, INC.

GSTK1 (E-4): sc-515580

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the glutathione S-transferase (GST) family of proteins function in the detoxification of xenobiotics to protect cells against toxicant-induced damage. There are eight families of GST proteins, namely α, ζ, θ, κ, μ, π, σ and ω, each of which are composed of proteins that have a variety of functions throughout the cell. GSTK1 (glutathione S-transferase κ 1), also known as glutathione S-transferase subunit 13 (GST 13-13) or GSTK1-1, is a 226 amino acid ubiquitously expressed protein belonging to the κ class of the GST superfamily that functions in cellular detoxification. Localizing to peroxisome, GSTK1 exists as a homodimer that catalyzes the conjugation of glutathione to a number of hydrophobic substrates leading to their removal from the cell.

CHROMOSOMAL LOCATION

Genetic locus: GSTK1 (human) mapping to 7q34.

SOURCE

GSTK1 (E-4) is a mouse monoclonal antibody raised against amino acids 1-226 representing full length GSTK1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GSTK1 (E-4) is available conjugated to agarose (sc-515580 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515580 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515580 PE), fluorescein (sc-515580 FITC), Alexa Fluor® 488 (sc-515580 AF488), Alexa Fluor® 546 (sc-515580 AF546), Alexa Fluor® 594 (sc-515580 AF594) or Alexa Fluor® 647 (sc-515580 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515580 AF680) or Alexa Fluor® 790 (sc-515580 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

GSTK1 (E-4) is recommended for detection of GSTK1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GSTK1 siRNA (h): sc-89816, GSTK1 shRNA Plasmid (h): sc-89816-SH and GSTK1 shRNA (h) Lentiviral Particles: sc-89816-V.

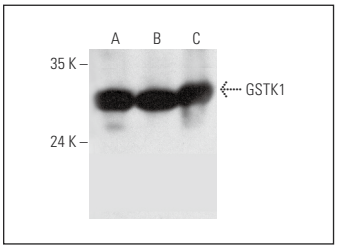
Molecular Weight of GSTK1: 30 kDa.

Positive Controls: HEK293T whole cell lysate: sc-45137, HeLa whole cell lysate: sc-2200 or human heart extract: sc-363763.

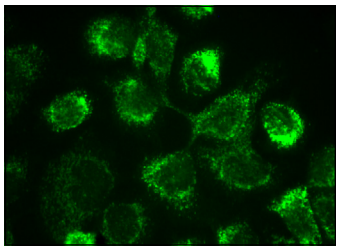
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GSTK1 (E-4): sc-515580. Western blot analysis of GSTK1 expression in HEK293T (**A**) and HeLa (**B**) whole cell lysates and human heart tissue extract (**C**).



GSTK1 (E-4): sc-515580. Immunofluorescence staining of formalin-fixed A-431 cells showing mitochondrial and peroxisome localization.

SELECT PRODUCT CITATIONS

1. Wang, W., et al. 2017. TRIM37, a novel E3 ligase for PEX5-mediated peroxisomal matrix protein import. J. Cell Biol. 216: 2843-2858.
2. Marcassa, E., et al. 2018. Dual role of USP30 in controlling basal pexophagy and mitophagy. EMBO Rep. 19: e45595.
3. Cheng, S.Y., et al. 2021. Glutathione S-transferase M3 is associated with glycolysis in intrinsic temozolomide-resistant glioblastoma multiforme cells. Int. J. Mol. Sci. 22: 7080.
4. Costa, C.F., et al. 2023. Functional analysis of GSTK1 in peroxisomal redox homeostasis in HEK-293 cells. Antioxidants 12: 1236.

STORAGE

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

PROTOCOLS

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