

HGTD-P (H-4): sc-514243

BACKGROUND

HGTD-P (human growth and transformation-dependent protein), also known as E2IG5 or FAM162A, is a 154 amino acid single-pass membrane protein belonging to the UPF0389 family. Considered a proapoptotic protein, HGTD-P is an effector of cell death induced by hypoxia-ischemia (HI) and is therefore considered a potential target in treating HI-induced brain damage. HGTD-P localizes to the mitochondria and, when overexpressed, induces the mitochondrial permeability transition by interacting with voltage dependent anion channels. HGTD-P facilitates apoptotic cell death via the mitochondrial apoptotic cascades, including permeability transition, cytochrome c release and caspase 9 activation. HGTD-P is regulated and activated by HIF-1 α through a hypoxia-responsive element on the HGTD-P promoter region.

REFERENCES

- Lee, M.J., et al. 2004. Identification of the hypoxia-inducible factor 1 α -responsive HGTD-P gene as a mediator in the mitochondrial apoptotic pathway. *Mol. Cell. Biol.* 24: 3918-3927.
- Webster, K.A., et al. 2006. Redox stress and the contributions of BH3-only proteins to infarction. *Antioxid. Redox Signal.* 8: 1667-1676.
- Kim, J.Y., et al. 2006. Interaction of pro-apoptotic protein HGTD-P with heat shock protein 90 is required for induction of mitochondrial apoptotic cascades. *FEBS Lett.* 580: 3270-3275.
- Cho, Y.E., et al. 2007. mHGTD-P mediates hypoxic neuronal cell death via the release of apoptosis-inducing factor. *Neurosci. Lett.* 416: 144-149.
- Cho, Y.E., et al. 2009. Expression and prognostic significance of human growth and transformation-dependent protein in gastric carcinoma and gastric adenoma. *Hum. Pathol.* 40: 975-981.
- Tang, B., et al. 2009. *In vitro* effects of hypoxia-inducible factor 1 α on the biological characteristics of the SiHa uterine cervix cancer cell line. *Int. J. Gynecol. Cancer* 19: 898-904.

CHROMOSOMAL LOCATION

Genetic locus: FAM162A (human) mapping to 3q21.1.

SOURCE

HGTD-P (H-4) is a mouse monoclonal antibody raised against amino acids 77-146 mapping near the C-terminus of HGTD-P of human origin.

PRODUCT

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

HGTD-P (H-4) is available conjugated to agarose (sc-514243 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514243 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514243 PE), fluorescein (sc-514243 FITC), Alexa Fluor[®] 488 (sc-514243 AF488), Alexa Fluor[®] 546 (sc-514243 AF546), Alexa Fluor[®] 594 (sc-514243 AF594) or Alexa Fluor[®] 647 (sc-514243 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514243 AF680) or Alexa Fluor[®] 790 (sc-514243 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HGTD-P (H-4) is recommended for detection of HGTD-P of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 HGTD-P siRNA (h): sc-78235, HGTD-P shRNA Plasmid (h): sc-78235-SH and HGTD-P shRNA (h) Lentiviral Particles: sc-78235-V.

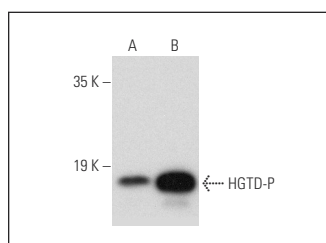
Molecular Weight of HGTD-P: 17 kDa.

Positive Controls: human liver extract: sc-363766 or RT-4 whole cell lysate: sc-364257.

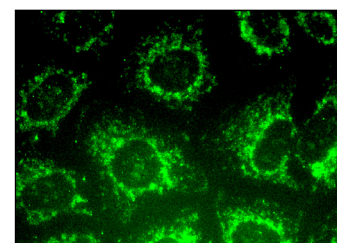
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



HGTD-P (H-4): sc-514243. Western blot analysis of HGTD-P expression in human liver tissue extract (A) and RT-4 whole cell lysate (B).



HGTD-P (H-4): sc-514243. Immunofluorescence staining of methanol-fixed HeLa cells showing mitochondrial localization.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA