

Fhit (G-4): sc-390481

BACKGROUND

Fhit, a candidate tumor suppressor gene, contains the FRA3B common fragile site and is highly susceptible to carcinogen damage. The pattern of mutational inactivation seen with the Fhit gene is unique compared with other known tumor suppressors. Fhit gene structure and expression have been shown to be altered in esophageal, head, neck, lung, gastric, breast, and cervical carcinomas. It has been demonstrated that Fhit exon loss is associated with smoking duration or asbestos exposure. The Fhit protein is a member of the histidine triad (HIT) superfamily and functions as a dinucleoside 5',5'''-P₁P₃-triphosphate hydrolase.

REFERENCES

1. Mao, L., et al. 1996. Frequent abnormalities of Fhit, a candidate suppressor gene, in head and neck cancer cell lines. *Cancer Res.* 56: 5128-5131.
2. Barnes, L.D., et al. 1996. Fhit, a putative tumor suppressor in humans, is a dinucleoside 5',5'''-P₁P₃-triphosphate hydrolase. *Biochemistry* 35: 11529-11535.
3. Siprashvili, Z., et al. 1997. Replacement of Fhit in cancer cells suppresses tumorigenicity. *Proc. Natl. Acad. Sci. USA* 94: 13771-13776.
4. Bugert, P., et al. 1997. Fhit gene and the FRA3B region are not involved in the genetics of renal cell carcinomas. *Genes Chromosomes Cancer* 20: 9-15.
5. Michael, D., et al. 1997. Frequent deletions of Fhit and FRA3B in Barrett's metaplasia and esophageal adenocarcinomas. *Oncogene* 15: 1653-1659.

CHROMOSOMAL LOCATION

Genetic locus: FHIT (human) mapping to 3p14.2; Fhit (mouse) mapping to 14 A1.

SOURCE

Fhit (G-4) is a mouse monoclonal antibody raised against amino acids 1-107 mapping at the N-terminus of Fhit 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.

Fhit (G-4) is available conjugated to agarose (sc-390481 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390481 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390481 PE), fluorescein (sc-390481 FITC), Alexa Fluor® 488 (sc-390481 AF488), Alexa Fluor® 546 (sc-390481 AF546), Alexa Fluor® 594 (sc-390481 AF594) or Alexa Fluor® 647 (sc-390481 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390481 AF680) or Alexa Fluor® 790 (sc-390481 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

Fhit (G-4) is recommended for detection of Fhit of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (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 Fhit siRNA (h): sc-106872, Fhit siRNA (m): sc-145170, Fhit shRNA Plasmid (h): sc-106872-SH, Fhit shRNA Plasmid (m): sc-145170-SH, Fhit shRNA (h) Lentiviral Particles: sc-106872-V and Fhit shRNA (m) Lentiviral Particles: sc-145170-V.

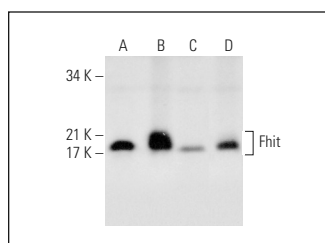
Molecular Weight of Fhit: 17 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, ACHN whole cell lysate: sc-364365 or human kidney extract: sc-363764.

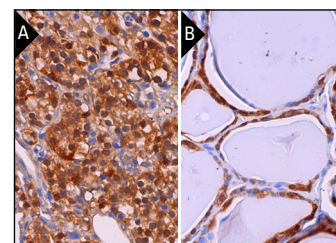
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Fhit (G-4): sc-390481. Western blot analysis of Fhit expression in Caki-1 (A), ACHN (B) and A549 (C) whole cell lysates and human kidney tissue extract (D).



Fhit (G-4): sc-390481. Immunoperoxidase staining of formalin fixed, paraffin-embedded human parathyroid gland tissue (A) and human thyroid gland tissue (B) showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Xu, W., et al. 2019. Effect of interventional embolotherapy on Fhit and p16 expression in hepatocellular carcinoma patients. *Oncol. Lett.* 17: 871-876.

RESEARCH USE

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