SANTA CRUZ BIOTECHNOLOGY, INC.

Ret (C-20): sc-1290

BACKGROUND

The Ret proto-oncogene is structurally related to the growing family of tyrosine kinase transmembrane receptors and is involved in GDNF signaling. By alternative splicing, two isoforms of the Ret proto-oncogene product are generated. The isoforms differ from each other by having either 9 or 51 carboxy-terminal amino acids. The Ret gene products include two glycosylated proteins and, in Tunicamycin treated cells, a non-glycosylated protein consistent with the predicted Ret molecular weight based on sequence analysis. Tumor-specific rearrangements of the Ret proto-oncogene have been identified in papillary thyroid carcinomas leading to the formation of different transforming fusion proteins sharing the tyrosine kinase domain of Ret. In contrast to the Ret proto-oncogene, the rearranged forms are constitutively phosphorylated on tyrosine and are translocated from the membrane to the cytoplasm.

CHROMOSOMAL LOCATION

Genetic locus: RET (human) mapping to 10q11.21; Ret (mouse) mapping to 6 F1.

SOURCE

Ret (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of Ret isoform A of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ret (C-20) is available conjugated phycoerythrin (sc-1290 PE, 200 µg/ml), for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-1290 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ret (C-20) is recommended for detection of Ret isoform A 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Ret (C-20) is also recommended for detection of Ret isoform A in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Ret siRNA (h): sc-36404, Ret siRNA (m): sc-36405, Ret shRNA Plasmid (h): sc-36404-SH, Ret shRNA Plasmid (m): sc-36405-SH, Ret shRNA (h) Lentiviral Particles: sc-36404-V and Ret shRNA (m) Lentiviral Particles: sc-36405-V.

Molecular Weight of Ret precursor: 150 kDa.

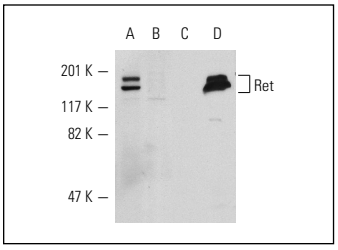
Molecular Weight of mature Ret: 170 kDa.

Positive Controls: TT whole cell lysate: sc-364195.

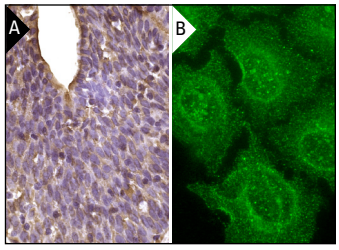
STORAGE

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

DATA



Western blot analysis of Ret expression in Ret (long) (**A**,**C**) and Ret (short) (**B**,**D**) transfected NIH/3T3 cells. Antibodies tested include Ret (C-20): sc-1290 (**A**,**B**) and Ret (C-19): sc-167 (**C**,**D**).



Ret (C-20): sc-1290. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Cosma, M.P., et al. 1998. Mutations in the extracellular domain cause RET loss of function by a dominant negative mechanism. Mol. Cell. Biol. 18: 3321-3329.
2. Prazeres, H., et al. 2011. *In vitro* transforming potential, intracellular signaling properties, and sensitivity to a kinase inhibitor (sorafenib) of RET proto-oncogene variants Glu511Lys, Ser649Leu, and Arg886Trp. Endocr. Relat. Cancer 18: 401-412.
3. Piltonen, M., et al. 2011. Vascular endothelial growth factor C acts as a neurotrophic factor for dopamine neurons *in vitro* and *in vivo*. Neuroscience 192: 550-563.
4. Garcia-Lavandeira, M., et al. 2012. Craniopharyngiomas express embryonic stem cell markers (SOX2, OCT4, KLF4, and SOX9) as pituitary stem cells but do not coexpress RET/GFRA3 receptors. J. Clin. Endocrinol. Metab. 97: E80-E87.
5. Diaz-Rodriguez E., et al. 2012. Direct promoter induction of $p19^{Arf}$ by Pit-1 explains the dependence receptor RET/Pit-1/p53-induced apoptosis in the pituitary somatotroph cells. Oncogene 31: 2824-2835.
6. Macià, A., et al. 2012. Sprouty1 is a candidate tumor-suppressor gene in medullary thyroid carcinoma. Oncogene 31: 3961-3972.

RESEARCH USE

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