

OGFR (N-20): sc-85798

The Power to Question

BACKGROUND

The proenkephalin precursor proteins belong to the opioid neuropeptide precursor family and are proteolytically processed to form active opioid peptides which function as ligands for opioid receptors. OGFR (opioid growth factor receptor) is a 677 amino acid protein that localizes to both the nucleus and the cytoplasm and functions as a receptor for opioid growth factors. Expressed at high levels in liver and heart and at moderate levels in kidney, brain, pancreas and skeletal muscle, OGFR exists as multiple alternatively spliced isoforms and, via its ability to bind opioid ligands, is thought to play an important role in growth regulation, possibly functioning as a tumor suppressor. Upon DNA damage, OGFR may be phosphorylated by ATM or ATR. The gene encoding OGFR maps to human chromosome 20, which houses over 600 genes and comprises nearly 2% of the human genome.

REFERENCES

- Zagon, I.S., Verderame, M.F., Allen, S.S. and McLaughlin, P.J. 2000. Cloning, sequencing, chromosomal location, and function of cDNAs encoding an opioid growth factor receptor (OGFR) in humans. *Brain Res.* 856: 75-83.
- Wu, C.J., Yang, X.F., McLaughlin, S., Neuberger, D., Canning, C., Stein, B., Alyea, E.P., Soiffer, R.J., Dranoff, G. and Ritz, J. 2000. Detection of a potent humoral response associated with immune-induced remission of chronic myelogenous leukemia. *J. Clin. Invest.* 106: 705-714.
- Zagon, I.S., Verderame, M.F. and McLaughlin, P.J. 2002. The biology of the opioid growth factor receptor (OGFR). *Brain Res. Brain Res. Rev.* 38: 351-376.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606459. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Zagon, I.S., Ruth, T.B., Leure-duPree, A.E., Sassani, J.W. and McLaughlin, P.J. 2003. Immunoelectron microscopic localization of the opioid growth factor receptor (OGFR) and OGF in the cornea. *Brain Res.* 967: 37-47.
- McLaughlin, P.J. and Zagon, I.S. 2006. Progression of squamous cell carcinoma of the head and neck is associated with down-regulation of the opioid growth factor receptor. *Int. J. Oncol.* 28: 1577-1583.
- Zagon, I.S. and McLaughlin, P.J. 2006. Opioid growth factor receptor is unaltered with the progression of human pancreatic and colon cancers. *Int. J. Oncol.* 29: 489-494.
- McLaughlin, P.J., Verderame, M.F., Hankins, J.L. and Zagon, I.S. 2007. Overexpression of the opioid growth factor receptor downregulates cell proliferation of human squamous carcinoma cells of the head and neck. *Int. J. Mol. Med.* 19: 421-428.
- Zagon, I.S., Kreiner, S., Heslop, J.J., Conway, A.B., Morgan, C.R. and McLaughlin, P.J. 2008. Prevention and delay in progression of human pancreatic cancer by stable overexpression of the opioid growth factor receptor. *Int. J. Oncol.* 33: 317-323.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: OGFR (human) mapping to 20q13.3.

SOURCE

OGFR (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of OGFR 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.

Blocking peptide available for competition studies, sc-85798 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

OGFR (N-20) is recommended for detection of OGFR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 OGFR siRNA (h): sc-75991, OGFR shRNA Plasmid (h): sc-75991-SH and OGFR shRNA (h) Lentiviral Particles: sc-75991-V.

Molecular Weight of OGFR: 73 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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