

USMG5 (A-14): sc-139445

BACKGROUND

USMG5 (up-regulated during skeletal muscle growth 5 homolog), also known as HCV F-transactivated protein 2 (HCVFTP2), is a 58 amino acid protein single-pass membrane protein that is transactivated by SBP1. The gene encoding USMG5 maps to human chromosome 10, which contains over 800 genes and 135 million nucleotides, making up nearly 4.5% of the human genome. PTEN is an important tumor suppressor gene located on chromosome 10 and, when defective, causes a genetic predisposition to cancer development known as Cowden syndrome. The chromosome 10 encoded gene ERCC6 is important for DNA repair and is linked to Cockayne syndrome which is characterized by extreme photosensitivity and premature aging. Tetrahydrobiopterin deficiency and a number of syndromes involving defective skull and facial bone fusion are also linked to chromosome 10. As with most trisomies, trisomy 10 is rare and is deleterious.

REFERENCES

1. Fryns, J.P., et al. 1991. Apparent late-onset Cockayne syndrome and interstitial deletion of the long arm of chromosome 10 (del(10)(q11.23q21.2)). *Am. J. Med. Genet.* 40: 343-344.
2. Thöny, B., et al. 1994. Chromosomal location of two human genes encoding tetrahydrobiopterin-metabolizing enzymes: 6-pyruvoyl-tetrahydropterin synthase maps to 11q22.3-q23.3, and pterin-4 α -carbinolamine dehydratase maps to 10q22. *Genomics* 19: 365-368.
3. Horibata, K., et al. 2004. Complete absence of Cockayne syndrome group B gene product gives rise to UV-sensitive syndrome but not Cockayne syndrome. *Proc. Natl. Acad. Sci. USA* 101: 15410-15415.
4. Ji, D., et al. 2005. Study of transactivating effect of pre-S2 protein of hepatitis B virus and cloning of genes transactivated by pre-S2 protein with suppression subtractive hybridization. *World J. Gastroenterol.* 11: 5438-5443.
5. Teresi, R.E., et al. 2007. Cowden syndrome-affected patients with PTEN promoter mutations demonstrate abnormal protein translation. *Am. J. Hum. Genet.* 81: 756-767.
6. Cho, M.Y., et al. 2008. First report of ovarian dysgerminoma in Cowden syndrome with germline PTEN mutation and PTEN-related 10q loss of tumor heterozygosity. *Am. J. Surg. Pathol.* 32: 1258-1264.
7. Blumenthal, G.M., et al. 2008. PTEN hamartoma tumor syndromes. *Eur. J. Hum. Genet.* 16: 1289-1300.
8. Utine, G.E., et al. 2008. Kabuki syndrome and trisomy 10p. *Genet. Couns.* 19: 291-300.
9. Yin, Y., et al. 2008. PTEN: a new guardian of the genome. *Oncogene* 27: 5443-5453.

CHROMOSOMAL LOCATION

Genetic locus: USMG5 (human) mapping to 10q24.33.

SOURCE

USMG5 (A-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of USMG5 of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-139445 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

USMG5 (A-14) is recommended for detection of USMG5 of human and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

USMG5 (A-14) is also recommended for detection of USMG5 in additional species, including equine and porcine.

Suitable for use as control antibody for USMG5 siRNA (h): sc-90599, USMG5 shRNA Plasmid (h): sc-90599-SH and USMG5 shRNA (h) Lentiviral Particles: sc-90599-V.

Molecular Weight (predicted) of USMG5: 6 kDa.

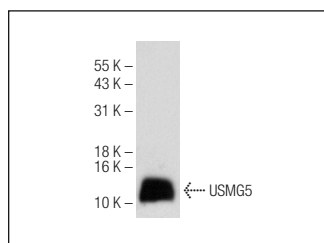
Molecular Weight (observed) of USMG5: 12 kDa.

Positive Controls: human heart tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



USMG5 (A-14): sc-139445. Western blot analysis of USMG5 expression in human heart tissue extract.

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.