

UPRT (T-14): sc-169759

BACKGROUND

UPRT (uracil phosphoribosyltransferase (FUR1) homolog (*S. cerevisiae*)), also known as UPP or FUR1, is a 309 amino acid cytoplasmic and nuclear protein that is highly expressed in leukocytes, liver, spleen and thymus, with lower expression in brain, lung and skeletal muscle. A member of the UPRTase family, UPRT catalyzes the conversion of uracil and 5-phosphoribosyl-1-R-diphosphate to uridine monophosphate (UMP), which is a critical step during nucleotide metabolism, specifically in the pyrimidine salvage pathway. UPRT is considered a potential target for treating parasitic infections and cancer. UPRT exists as three alternatively spliced isoforms and is encoded by a gene located on human chromosome X. Chromosome X consists of about 153 million base pairs and nearly 1,000 genes. Color blindness, hemophilia and Duchenne muscular dystrophy are well known X chromosome-linked conditions that affect males more frequently, as males carry a single X chromosome.

REFERENCES

1. Barchue, J., et al. 1999. Expression, purification, crystallization and preliminary X-ray diffraction analysis of uracil phosphoribosyltransferase of *Toxoplasma gondii*. Acta Crystallogr. D Biol. Crystallogr. 55: 347-349.
2. Miyagi, T., et al. 2003. Gene therapy for prostate cancer using the cytosine deaminase/uracil phosphoribosyltransferase suicide system. J. Gene Med. 5: 30-37.
3. Li, J., et al. 2007. Identification and characterization of human uracil phosphoribosyltransferase (UPRTase). J. Hum. Genet. 52: 415-422.
4. Fogar, P., et al. 2007. Suicide gene therapy with the yeast fusion gene cytosine deaminase/uracil phosphoribosyltransferase is not enough for pancreatic cancer. Pancreas 35: 224-231.
5. Zhao, F.J., et al. 2008. Bystander effect of target-regulated uracil phosphoribosyltransferase/5-fluorouracil suicide gene system on prostate cancer cell. Sichuan Da Xue Xue Bao Yi Xue Ban 39: 394-397.
6. Khatri, A., et al. 2009. Cytosine deaminase-uracil phosphoribosyltransferase and interleukin (IL)-12 and IL-18: a multimodal anticancer interface marked by specific modulation in serum cytokines. Clin. Cancer Res. 15: 2323-2334.
7. Zaoui, K., et al. 2011. Chemovirotherapy for head and neck squamous cell carcinoma with EGFR-targeted and CD/UPRT-armed oncolytic measles virus. Cancer Gene Ther. 19: 181-191.
8. Altanerova, V., et al. 2011. Human adipose tissue-derived mesenchymal stem cells expressing yeast cytosinedeaminase::uracil phosphoribosyltransferase inhibit intracerebral rat glioblastoma. Int. J. Cancer 130: 2455-2463.
9. Chen, C.T., et al. 2011. Dual targeting of tumor angiogenesis and chemother-apy by endostatin-cytosine deaminase-uracil phosphoribosyltransferase. Mol. Cancer Ther. 10: 1327-1336.

CHROMOSOMAL LOCATION

Genetic locus: UPRT (human) mapping to Xq13.3; Uprt (mouse) mapping to X D.

SOURCE

UPRT (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of UPRT 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-169759 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UPRT (T-14) is recommended for detection of UPRT of mouse, rat and 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).

UPRT (T-14) is also recommended for detection of UPRT in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for UPRT siRNA (h): sc-91090, UPRT siRNA (m): sc-154930, UPRT shRNA Plasmid (h): sc-91090-SH, UPRT shRNA Plasmid (m): sc-154930-SH, UPRT shRNA (h) Lentiviral Particles: sc-91090-V and UPRT shRNA (m) Lentiviral Particles: sc-154930-V.

Molecular Weight of UPRT: 34 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.

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 or our catalog for detailed protocols and support products.