

5 α -Reductase 2 (T-13): sc-20404

BACKGROUND

Steroid 5 α -reductase is an important enzyme in androgen physiology because it catalyzes the conversion of testosterone into the more potent 5 α -dihydrotestosterone, which mediates androgen effects on target tissues. The enzyme exists as two isoforms, type 1 and type 2. Type 1 isozyme is expressed mainly in the skin and type 2 is expressed mainly in the prostate. In cultured human skin cells, 5 α -reductase 1 shows heterogeneity of protein, ranging from 21–27 kDa, and has different levels of transcriptional and translational expression. 5 α -reductase 1 is expressed in all portions of the hair follicle, whereas 5 α -reductase 2 is expressed only in mesenchymal portions. In addition, 5 α -reductase 1 is mainly expressed in human breast carcinoma and may play a role in the *in situ* production and actions of the potent androgen 5 α -dihydrotestosterone, including inhibition of cancer cell proliferation in hormone-dependent human breast carcinoma. The 5 α -reductase-3 α -hydroxysteroid dehydrogenase complex is present in the human brain, suggesting that the complex may be involved in the synthesis of neuroactive steroids or the catabolism of neurotoxic steroids.

REFERENCES

1. Bonkhoff, H., et al. 1996. Differential expression of 5 α -reductase isoenzymes in the human prostate and prostatic carcinomas. *Prostate* 29: 261-267.
2. Taylor, M.F., et al. 1997. Expression of rat steroid 5 α -reductase (isozyme-1) in *Spodoptera frugiperda*, SF21, insect cells: expression of rat steroid 5 α -reductase. *Steroids* 62: 373-378.
3. Chen, W., et al. 1998. Evidence of heterogeneity and quantitative differences of the type 1 5 α -reductase expression in cultured human skin cells—evidence of its presence in melanocytes. *J. Invest. Dermatol.* 110: 84-89.
4. Suzuki, T., et al. 2001. 5 α -reductases in human breast carcinoma: possible modulator of *in situ* androgenic actions. *J. Clin. Endocrinol. Metab.* 86: 2250-2257.
5. Steckelbroeck, S., et al. 2001. Characterization of the 5 α -reductase-3 α -hydroxysteroid dehydrogenase complex in the human brain. *J. Clin. Endocrinol.* 86: 1324-1331.

CHROMOSOMAL LOCATION

Genetic locus: SRD5A2 (human) mapping to 2p23.1.

SOURCE

5 α -Reductase 2 (T-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 5 α -Reductase 2 of human origin.

PRODUCT

Each vial contains 200 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-20404 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

5 α -Reductase 2 (T-13) is recommended for detection of 5 α -Reductase 2 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 5 α -Reductase 2 siRNA (h): sc-41398, 5 α -Reductase 2 shRNA Plasmid (h): sc-41398-SH and 5 α -Reductase 2 shRNA (h) Lentiviral Particles: sc-41398-V.

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.

MONOS
Satisfaction
Guaranteed

Try **5 α -Reductase 2 (1F4): sc-293232**, our highly recommended monoclonal alternative to 5 α -Reductase 2 (T-13).