SANTA CRUZ BIOTECHNOLOGY, INC.

5α-Reductase 2 (N-14): sc-20400



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, which is expressed mainly in the skin; and type 2, which is expressed mainly in the prostate. In cultured human skin cells, 5 α -Reductase 1 shows heterogeneity of protein, 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 5α -Reductase isoenzymes in the human prostate and prostatic carcinomas. Prostate 29: 261-267.
- 2. Taylor, M.F., et al. 1997. Expression of rat steroid 5α -Reductase (isozyme-1) in *Spodoptera frugiperda*, SF21, insect cells: expression of rat steroid 5α -Reductase. Steroids 62: 373-378.
- 3. Chen, W., et al. 1998. Evidence of heterogeneity and quantitative differences of the type 1 5α -Reductase expression in cultured human skin cells—evidence of its presence in melanocytes. J. Invest. Dermatol. 110: 84-89.
- Suzuki, T., et al. 2001. 5α-Reductases in human breast carcinoma: possible modulator of *in situ* androgenic actions. J. Clin. Endocrinol. Metab. 86: 2250-2257.

CHROMOSOMAL LOCATION

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

SOURCE

 5α -Reductase 2 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of 5α -Reductase 2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-20400 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

 5α -Reductase 2 (N-14) is recommended for detection of 5α -Reductase 2 of 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), isotochemistry (including paraffin-embedded sections) (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 5α -Reductase 2 siRNA (h): sc-41398, 5α -Reductase 2 shRNA Plasmid (h): sc-41398-SH and 5α -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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immuno-histochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



5α-Reductase 2 (N-14): sc-20400. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining o' glandular cells.

RESEARCH USE

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

