

POU2F3 (C-20): sc-330

BACKGROUND

Tissue-restricted POU domain transcription factors, which bind octamer or octamer-like gene sequences, play roles in cellular differentiation and the development of several organs. POU2F3, also designated Oct-11, PLA-1 protein or transcription factor Skn-1, represents a member of the class 2 POU domain family of transcriptional activators, highly related to Oct-2, that are selectively expressed in terminally differentiating epidermal and hair follicles. POU2F3 is characterized by an N-terminal domain that inhibits DNA binding and can inhibit transactivation by Oct-2. Alternative splicing of the N-terminus serves to activate cytokeratin 10 (K10) gene expression. When POU2F3 is expressed in eukaryotic cells it can bind to an octamer site, suggesting that *in vivo* cellular factors modulate the activity of the inhibitory domain to permit DNA-binding. The inhibitory domain does not allow transactivation by POU2F3 or by a heterologous transactivator containing this domain in *cis*. POU2F3 contributes to epidermal stratification by primarily promoting keratinocyte proliferation and secondarily by enhancing the subsequent keratinocyte differentiation.

REFERENCES

1. Andersen, B., et al. 1993. Skn-1a and Skn-1i: two functionally distinct Oct-2-related factors expressed in epidermis. *Science* 260: 78-82.
2. Andersen, B., et al. 1997. Characterization of Skn-1a/i POU domain factors and linkage to papillomavirus gene expression. *J. Biol. Chem.* 272: 15905-15913.
3. Andersen, B., et al. 1997. Functions of the POU domain genes Skn-1a/i and Tst-1/Oct-6/SCIP in epidermal differentiation. *Genes Dev.* 11: 1873-1884.
4. Hildesheim, J., et al. 1999. Characterization of the regulatory domains of the human Skn-1a/Epoc-1/Oct-11 POU transcription factor. *J. Biol. Chem.* 274: 26399-26406.
5. Hildesheim, J., et al. 2001. The hSkn-1a POU transcription factor enhances epidermal stratification by promoting keratinocyte proliferation. *J. Cell Sci.* 114: 1913-1923.

CHROMOSOMAL LOCATION

Genetic locus: POU2F3 (human) mapping to 11q23.3; Pou2f3 (mouse) mapping to 9 A5.1.

SOURCE

POU2F3 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of POU2F3 of rat 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-330 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-330 X, 200 µg/0.1 ml.

APPLICATIONS

POU2F3 (C-20) is recommended for detection of POU2F3 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence and immunohistochemistry (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 POU2F3 siRNA (h): sc-38776, POU2F3 siRNA (m): sc-38777, POU2F3 shRNA Plasmid (h): sc-38776-SH, POU2F3 shRNA Plasmid (m): sc-38777-SH, POU2F3 shRNA (h) Lentiviral Particles: sc-38776-V and POU2F3 shRNA (m) Lentiviral Particles: sc-38777-V.

POU2F3 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

SELECT PRODUCT CITATIONS

1. Jang, S.I., et al. 2000. Complex interactions between epidermal POU domain and activator protein 1 transcription factors regulate the expression of the profilaggrin gene in normal human epidermal keratinocytes. *J. Biol. Chem.* 275: 15295-15304.
2. Mathieu, M.C., et al. 2001. AhR/Arnt- and p53-mediated induction of the murine multidrug resistance Mdr-1 gene by 3-methylcholanthrene and Benzo(a)pyrene in hepatoma cells. *J. Biol. Chem.* 276: 4819-4827.
3. Zhang, Z., et al. 2006. Aberrant promoter methylation and silencing of the POU2F3 gene in cervical cancer. *Oncogene* 25: 5436-5445.

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.



Try **POU2F3 (6D1): sc-293402**, our highly recommended monoclonal alternative to POU2F3 (C-20).