

# POU2F3 (6D1): sc-293402

## 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. Goldsborough, A.S., et al. 1993. Cloning, chromosomal localization and expression pattern of the POU domain gene Oct-11. *Nucleic Acids Res.* 21: 127-134.
2. Andersen, B., et al. 1993. Skn-1a and Skn-1i: two functionally distinct Oct-2-related factors expressed in epidermis. *Science* 260: 78-82.
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.

## CHROMOSOMAL LOCATION

Genetic locus: POU2F3 (human) mapping to 11q23.3.

## SOURCE

POU2F3 (6D1) is a mouse monoclonal antibody raised against amino acids 1-109 of POU2F3 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

POU2F3 (6D1) is recommended for detection of POU2F3 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

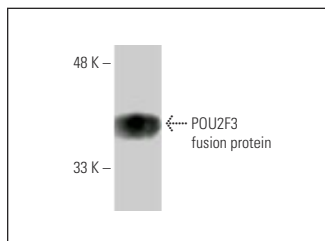
Suitable for use as control antibody for POU2F3 siRNA (h): sc-38776, POU2F3 shRNA Plasmid (h): sc-38776-SH and POU2F3 shRNA (h) Lentiviral Particles: sc-38776-V.

Molecular Weight of POU2F3: 47 kDa.

## STORAGE

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

## DATA



POU2F3 (6D1): sc-293402. Western blot analysis of human recombinant POU2F3 fusion protein.

## SELECT PRODUCT CITATIONS

1. Caeser, R., et al. 2021. MAPK pathway activation selectively inhibits ASCL1-driven small cell lung cancer. *iScience* 24: 103224.
2. Chan, J.M., et al. 2021. Signatures of plasticity, metastasis, and immunosuppression in an atlas of human small cell lung cancer. *Cancer Cell* 39: 1479-1496.e18.
3. Matsui, S., et al. 2022. High mRNA expression of POU2F3 in small cell lung cancer cell lines predicts the effect of lurbinectedin. *Thorac. Cancer* 13: 1184-1192.
4. Li, H., et al. 2022. Colony-stimulating factor CSF2 mediates the phenotypic plasticity of small-cell lung cancer by regulating the p-Stat3/MYC pathway. *Oncol. Rep.* 48: 122.
5. Zhong, E., et al. 2022. Expression of novel neuroendocrine markers in breast carcinomas a study of INSM1, ASCL1 and POU2F3. *Hum. Pathol.* 127: 102-111.
6. Park, S.E., et al. 2022. Gut epithelial inositol polyphosphate multikinase alleviates experimental colitis via governing tuft cell homeostasis. *Cell. Mol. Gastroenterol. Hepatol.* 14: 1235-1256.
7. Lang, C., et al. 2022. Clinical and prognostic implications of CD47 and PD-L1 expression in surgically resected small-cell lung cancer. *ESMO Open* 7: 100631.
8. Handa, T., et al. 2023. Comparison of ASCL1, NEUROD1, and POU2F3 expression in surgically resected specimens, paired tissue microarrays, and lymph node metastases in small cell lung carcinoma. *Histopathology*. E-published.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.