

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_{2a} 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).

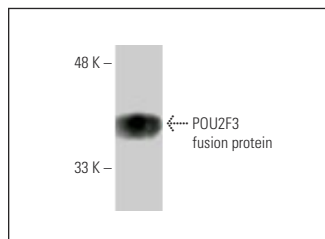
Suitable for use as control antibody for POU2F3 siRNA (h): sc-38776, POU2F3 shRNA Plasmid (h): sc-38776-SH and POU2F3 shRNA (h) Lentiviral Particles: sc-38776-V.

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. Caesar, 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. 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* 82: 860-869.
8. Turnham, D.J., et al. 2024. Development and characterisation of a new patient-derived xenograft model of AR-negative metastatic castration-resistant prostate cancer. *Cells* 13: 673.
9. Lang, C., et al. 2024. C-Myc protein expression indicates unfavorable clinical outcome in surgically resected small cell lung cancer. *World J. Surg. Oncol.* 22: 57.

RESEARCH USE

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