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# POU5F1 Antibody

Catalog # ASC11055

## Product Information

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| **Application** | WB, E, IHC-P |
| **Primary Accession** | Q01860 |
| **Other Accession** | NP_002692, 42560248 |
| **Reactivity** | Human, Mouse, Rat |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Calculated MW** | 38571 |
| **Concentration (mg/ml)** | 1 mg/mL |
| **Conjugate** | Unconjugated |
| **Application Notes** | POU5F1 antibody can be used for detection of POU5F1 by Western blot at 1 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. |

## Additional Information

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| **Gene ID** | 5460 |
| **Other Names** | POU domain, class 5, transcription factor 1, Octamer-binding protein 3, Oct-3, Octamer-binding protein 4, Oct-4, Octamer-binding transcription factor 3, OTF-3, POU5F1, OCT3, OCT4, OTF3 |
| **Target/Specificity** | POU5F1; |
| **Reconstitution & Storage** | POU5F1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures. |
| **Precautions** | POU5F1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | POU5F1 |
| **Synonyms** | OCT3, OCT4, OTF3 |
| **Function** | Transcription factor that binds to the octamer motif (5'- ATTTGCAT-3'). Forms a trimeric complex with SOX2 or SOX15 on DNA and controls the expression of a number of genes involved in embryonic development such as YES1, FGF4, UTF1 and ZFP206. Critical for early embryogenesis and for embryonic stem cell pluripotency. |

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| **Cellular Location** | Cytoplasm. Nucleus. Note=Expressed in a diffuse and slightly punctuate pattern. Colocalizes with MAPK8 and MAPK9 in the nucleus. {ECO:0000250\|UniProtKB:P20263, ECO:0000269\|PubMed:18191611, ECO:0000269\|PubMed:19274063, ECO:0000269\|PubMed:23024368} |
| **Tissue Location** | Expressed in developing brain. Highest levels found in specific cell layers of the cortex, the olfactory bulb, the hippocampus and the cerebellum. Low levels of expression in adult tissues. |

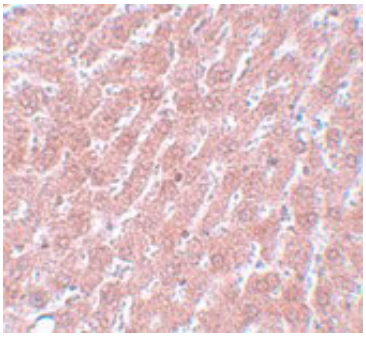
## Background

POU5F1 Antibody: POU5F1, also commonly known as Oct-4, is a maternally expressed octamer-binding protein that was the first transcription factor described for the early stages of development. The role of POU5F1 in embryonic development suggested that it might be useful in the creation of stem cells that might be useful in cell replacement therapies in the treatment of several degenerative diseases. Artificial stem cells, termed induced pluripotent stem (iPS) cells, can be created by expressing POU5F1 and the transcription factors Sox2, Klf4 and Lin28 along with c-Myc in mouse fibroblasts. More recently, experiments have demonstrated that iPS cells could be generated using expression plasmids expressing POU5F1, Sox2, KlfF4 and c-Myc, eliminating the need for virus introduction, thereby addressing a safety concern for potential use of iPS cells in regenerative medicine.

## References

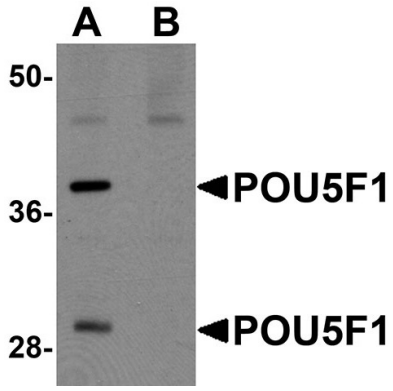
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Scholer HR, Dressler GR, Balling R, et al. Oct-4: a germline-specific transcription factor mapping to the mouse t-complex. EMBO J.1990; 9:2185-95.
Carpenter MK, Rosler E, and Rao MS. Characterization and differentiation of human embryonic stem cells. Cloning Stem Cells2003; 5:79-88.
Takahashi K and Yamanaka S. Induction of pluripotent stem cells from mouse embryonic and adult fibroblast cultures by defined factors. Cell2006; 1263:663-76.

## Images



Immunohistochemistry of POU5F1 in rat liver tissue with POU5F1 antibody at 5 μgg/mL.

Western blot analysis of POU5F1 in mouse liver tissue lysate with POU5F1 antibody at 1 碌g/ml in (A) the absence and (B) the presence of blocking peptide.




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