

## Product datasheet for **TA319164**

### Oct4 (POU5F1) Rabbit Polyclonal Antibody

#### Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	ELISA: 1:350,000, WB: 1:1,000 - 1:1,500, IF: User Optimized, IP: User Optimized
Reactivity:	Human, Monkey, Horse
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region of human Oct-4 protein.
Formulation:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Concentration:	lot specific
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	POU class 5 homeobox 1
Database Link:	<a href="#">NP_001167002</a> <a href="#">Entrez Gene 714760 Monkey</a> <a href="#">Entrez Gene 5460 Human</a> <a href="#">Q01860</a>
Synonyms:	Oct-3; Oct-4; OCT3; OCT4; OTF-3; OTF3; OTF4

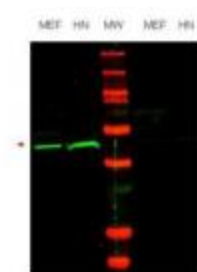


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**Note:** Oct-4, also known as POU domain transcription factor, Octomer- binding transcription factor 3 and Oct-3, is expressed in human and mouse totipotent embryonic stem and germ cells. It may function in preventing these cells from differentiating. Each type of established mammalian pluripotent stem cell line (embryonal carcinoma (EC) cells, embryonic stem (ES) cells and embryonic germ (EG) cells) expresses Oct-4, which disappears rapidly when the cells differentiate. Most studies on Oct-4 have been performed on murine embryos. In human oocytes of various maturity and normally developing preimplantation/cleavage embryos, a variable Oct-4 expression pattern has been revealed, concomitant with a pure cytoplasmic localization of the protein. This variability in expression fades away during compaction, indicating embryonic Oct-4 expression; the protein appears in the nucleus, implying biological activity. Functional Oct-4 has been found in human amniotic fluid. As Oct-4 transcripts have also been found in various differentiated cells, the presence of Oct-4 transcripts or proteins may not be sufficient for identifying undifferentiated cell lines in humans. It may also be important to examine the localization of Oct-4 proteins within a cell. Oct-4 has been shown to interact with Nanog and with proteins from multiple repression complexes, including the NuRD, Sin3A and Pml complexes, possibly to control ES fate. Reactivation of Oct-4 expression is postulated to occur in differentiated cells that have undergone carcinogenesis, or tumor formation.

**Protein Families:** Adult stem cells, Cancer stem cells, Embryonic stem cells, Induced pluripotent stem cells, Stem cell - Pluripotency, Transcription Factors

### Product images:



WB using Anti-Oct4 antibody shows detection of endogenous Oct4 in mouse embryonic fibroblast (MEF) cell lysate (lane 1) and HeLa nuclear extract (HN) (lane 2). The band at ~39 kDa (arrow head) corresponds to Oct4. After transfer, the membrane was blocked with 5% BSA. Primary antibody was used at a 1:1,000 dilution in PBS containing 5% BSA. The specificity of the antibody was confirmed by peptide competition which blocks reaction of the antibody with Oct4 (lanes 3 and 4, respectively).