

# Recombinant Human POU5F1 Protein, 11R-tagged

**Cat. No.** POU5F1-113H    **Lot. No.** (See product label)

## SPECIFICATION

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b>     | Recombinant Human POU5F1 Protein with a 11R tag was expressed in E. coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Species</b>              | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Source</b>               | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Description</b>          | This gene encodes a transcription factor containing a POU homeodomain that plays a key role in embryonic development and stem cell pluripotency. Aberrant expression of this gene in adult tissues is associated with tumorigenesis. This gene can participate in a translocation with the Ewing's sarcoma gene on chromosome 21, which also leads to tumor formation. Alternative splicing, as well as usage of alternative AUG and non-AUG translation initiation codons, results in multiple isoforms. One of the AUG start codons is polymorphic in human populations. Related pseudogenes have been identified on chromosomes 1, 3, 8, 10, and 12. |
| <b>Purity</b>               | > 93% by SDS-PAGE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Applications</b>         | <ol style="list-style-type: none"> <li>1. May be used for in vitro human Oct4 mediated iPS generation mechanism, or its gene specific transcription regulation study with intracellular delivery of this protein.</li> <li>2. May be used as specific substrate protein for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.</li> <li>3. May be used for Oct4 protein-protein interaction mapping.</li> <li>4. May be used for specific antibody production.</li> </ol>                                                                                                                                                  |
| <b>Quality Control Test</b> | 1. Cellular Toxicity: This recombinant protein was tested on mouse embryonic stem                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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cells up to 50 µg/mL in culture medium. Suggested reprogramming protein concentration is between 0.5 to 8 µg/mL for both human and mouse fibroblast cells applications.

2. Biologic Activity: Measured by EMSA DNA specific binding assay using IRdye700 double strain labeled 5'-GGCCCATGCAAATCCAGGAA 3' oligo as probe.

Intracellular protein penetration rate was tested using DyLight labeled Oct4-11R protein at 1 µg/mL for 30 min incubation for human fibroblast cells (BJ) at 37 centigrade. More than 95% cell will be positive one hour after sample incubation.

**Storage**

Recombinant Human Oct4-11R is stable for six months at -20 to -80 centigrade. Store thawed tube at 4 centigrade for seven days. Multiple freeze/thaw cycles may result in significant loss of activity.

**Concentration**

0.5 mg/mL

**Storage Buffer**

Sterile-filtered solution in 20 mM Tris, pH 7.5. Proprietary formulation of NaCl , KCl, CaCl<sub>2</sub>, MgCl<sub>2</sub>, arginine, DTT, and glycerol.

## GENE INFORMATION

**Gene Name**

POU5F1 POU class 5 homeobox 1 [ Homo sapiens (human) ]

**Official Symbol**

POU5F1

**Synonyms**

POU5F1; POU class 5 homeobox 1; OCT3; OCT4; OTF3; OTF4; OTF-3; Oct-3; Oct-4; Oct3/4; POU domain, class 5, transcription factor 1; POU domain transcription factor OCT4; POU-type homeodomain-containing DNA-binding protein; octamer-binding protein 3; octamer-binding protein 4; octamer-binding transcription factor 3

**Gene ID**

5460

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|----------------|-----------|
| mRNA Refseq    | NM_002701 |
| Protein Refseq | NP_002692 |
| MIM            | 164177    |
| UniProt ID     | Q01860    |

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