

Product datasheet

Human Oct4 ELISA Kit ab235653

SimpleStep ELISA[®]

[3 Images](#)

Overview

Product name Human Oct4 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Cell extract	8			9.8%

Sample type Cell culture extracts

Assay type Sandwich (quantitative)

Sensitivity 596 pg/ml

Range 1.76 ng/ml - 112.5 ng/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture extracts	102	% - %

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview

Oct4 *in vitro* SimpleStep ELISA[®] (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Oct4 protein in human cell extract samples.

The SimpleStep ELISA[®] employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB substrate is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the

intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.

Oct4 is a transcription factor that plays a key role in the self-renewal of undifferentiated embryonic stem cells. Up or down regulation of this protein leads to aberrant differentiation. Induction of Oct4, in combination with other transcription factors, is used to reprogram cells and induce a pluripotent stem cell-like state. Oct4 is associated with the plasticity of cancer stem cells.

Platform Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human Oct4 Capture Antibody	1 x 600µl
10X Human Oct4 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 4BR	1 x 6ml
Human Oct4 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

Function Transcription factor that binds to the octamer motif (5'-ATTTGCAT-3'). Forms a trimeric complex with SOX2 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.

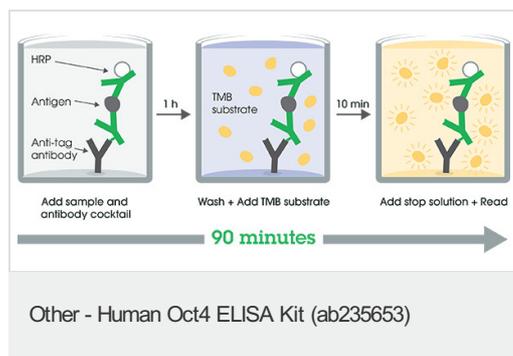
Tissue specificity Expressed in developing brain. Highest levels found in specific cell layers of the cortex, the olfactory bulb, the hippocampus and the cerebellum. Low levels of expression in adult tissues.

Sequence similarities Belongs to the POU transcription factor family. Class-5 subfamily.
Contains 1 homeobox DNA-binding domain.
Contains 1 POU-specific domain.

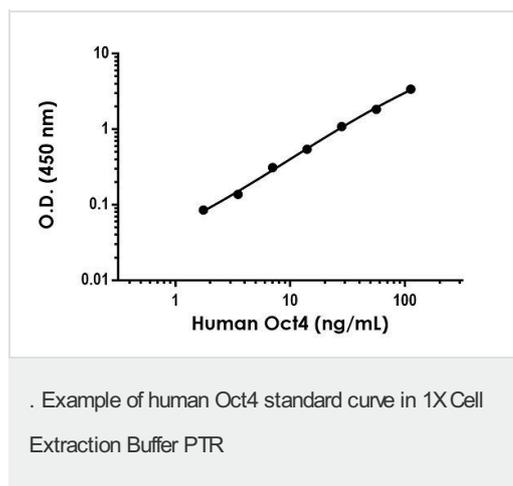
Developmental stage Highly expressed in undifferentiated embryonic stem cells and expression decreases gradually after embryoid body (EB) formation.

Domain	The POU-specific domain mediates interaction with PKM2.
Post-translational modifications	Sumoylation enhances the protein stability, DNA binding and transactivation activity. Sumoylation is required for enhanced YES1 expression. Ubiquitinated; undergoes 'Lys-63'-linked polyubiquitination by WWP2 leading to proteasomal degradation.
Cellular localization	Nucleus. Expressed in a diffuse and slightly punctuate pattern.

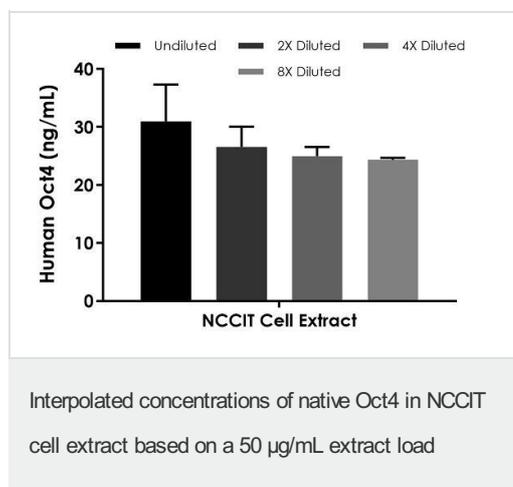
Images



SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Background-subtracted data values (mean +/- SD) are graphed.



The concentrations of Oct4 were measured in duplicate and interpolated from the Oct4 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Oct4 concentration was determined to be 26.7 ng/mL in NCCIT cell extract.

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