

# OC-2 (E-14): sc-51175

## BACKGROUND

The predicted 485 amino acid ONECUT2 (OC-2) protein is a transcriptional activator that functions in activating the transcription of several liver genes, such as HNF3- $\beta$ . OC-2 is a member of the CUT homeobox family and contains one CUT DNA-binding domain and one homeobox DNA-binding domain. OC-2 shares several regions of sequence homology with OC-1 (HNF6), including a serine/threonine- and proline-rich sequence (STP box). OC-2 localizes to the nucleus and abundant expression of OC-2 is observed in liver and skin tissues, whereas lower expression is demonstrated in testis, brain (occipital cortex) and urinary bladder tissues. The ability of OC-2 to recognize binding sites present in regulatory regions of liver-expressed genes differ from, but overlap with, those of OC-1. Like OC-1, recombinant OC-2 stimulates transcription of the HNF3- $\beta$  gene. Research also suggests that OC-2 participates in liver differentiation and metabolism.

## REFERENCES

1. Jacquemin, P., Lannoy, V.J., Rousseau, G.G. and Lemaigre, F.P. 1999. OC-2, a novel mammalian member of the ONECUT class of homeodomain transcription factors whose function in liver partially overlaps with that of hepatocyte nuclear factor-6. *J. Biol. Chem.* 274: 2665-2671.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604894. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Jacquemin, P., Pierreux, C.E., Fierens, S., van Eyll, J.M., Lemaigre, F.P. and Rousseau, G.G. 2003. Cloning and embryonic expression pattern of the mouse onecut transcription factor OC-2. *Gene Expr. Patterns* 3: 639-644.
5. Clotman, F., Jacquemin, P., Plumb-Rudewicz, N., Pierreux, C.E., Van der Smissen, P., Dietz, H.C., Courtoy, P.J., Rousseau, G.G. and Lemaigre, F.P. 2005. Control of liver cell fate decision by a gradient of TGF $\beta$  signaling modulated by onecut transcription factors. *Genes Dev.* 19: 1849-1854.
6. Clotman, F. and Lemaigre, F.P. 2006. Control of hepatic differentiation by activin/TGF $\beta$  signaling. *Cell Cycle* 5: 168-171.

## CHROMOSOMAL LOCATION

Genetic locus: ONECUT2 (human) mapping to 18q21.31; Onecut2 (mouse) mapping to 18 E1.

## SOURCE

OC-2 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of OC-2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-51175 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-51175 X, 200  $\mu$ g/0.1 ml.

## APPLICATIONS

OC-2 (E-14) is recommended for detection of OC-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

OC-2 (E-14) is also recommended for detection of OC-2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for OC-2 siRNA (h): sc-61254, OC-2 siRNA (m): sc-61255, OC-2 shRNA Plasmid (h): sc-61254-SH, OC-2 shRNA Plasmid (m): sc-61255-SH, OC-2 shRNA (h) Lentiviral Particles: sc-61254-V and OC-2 shRNA (m) Lentiviral Particles: sc-61255-V.

OC-2 (E-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

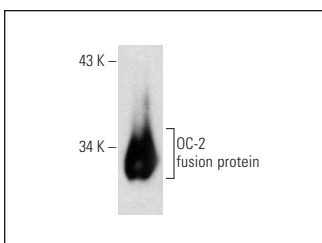
Molecular Weight of OC-2: 58 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



OC-2 (E-14): sc-51175. Western blot analysis of human recombinant OC-2 fusion protein.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

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