

EN-1 (H-55): sc-66876

BACKGROUND

The engrailed-1 gene, EN1, a murine homolog of the *Drosophila homeobox* gene engrailed (EN), is required for midbrain and cerebellum development and dorsal/ventral patterning of the limbs as well as apical ectodermal ridge formation. In *Drosophila*, the EN gene plays an important role during development in segmentation, where it is required for the formation of posterior compartments. Human EN-1 and EN-2 are homeodomain-containing proteins and have been implicated in the control of pattern formation during development of the central nervous system. Different mutations in the mouse homologs, EN-1 and EN-2, produce different developmental defects that frequently are lethal. EN-1 is highly expressed by essentially all dopaminergic neurons in the substantia nigra and ventral tegmentum. EN-1 and EN-2 regulate expression of α -synuclein, a gene that is genetically linked to Parkinson's disease.

REFERENCES

1. Kohler, A., et al. 1993. Regional assignment of the human homeobox-containing gene EN1 to chromosome 2q13-q21. *Genomics* 15: 233-235.
2. Hanks, M.C., et al. 1998. *Drosophila* engrailed can substitute for mouse Engrailed-1 function in mid-hindbrain, but not limb development. *Development* 125: 4521-4530.
3. Ohuchi, H., et al. 1999. FGF-10 can induce FGF-8 expression concomitantly with EN-1 and R-fng expression in chick limb ectoderm, independent of its dorsoventral specification. *Dev. Growth Differ.* 41: 665-673.
4. Gemel, J., et al. 1999. Fibroblast growth factor-8 expression is regulated by intronic engrailed and Pbx 1-binding sites. *J. Biol. Chem.* 274: 6020-6026.
5. Simon, H.H., et al. 2001. Fate of midbrain dopaminergic neurons controlled by the engrailed genes. *J. Neurosci.* 21: 3126-3134.
6. Simon H.H., et al. 2004. Midbrain dopaminergic neurons: control of their cell fate by the engrailed transcription factors. *Cell Tissue Res.* 318: 53-61.
7. Alberi L., et al. 2004. Engrailed genes are cell-autonomously required to prevent apoptosis in mesencephalic dopaminergic neurons. *Development* 131: 3229-3236.

CHROMOSOMAL LOCATION

Genetic locus: EN1 (human) mapping to 2q14.2; En1 (mouse) mapping to 1 E2.3.

SOURCE

EN-1 (H-55) is a rabbit polyclonal antibody raised against amino acids 21-75 mapping near the N-terminus of EN-1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-66876 X, 200 μ g/0.1 ml.

STORAGE

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

APPLICATIONS

EN-1 (H-55) is recommended for detection of EN-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

Suitable for use as control antibody for EN-1 siRNA (h): sc-43752, EN-1 siRNA (m): sc-45653, EN-1 shRNA Plasmid (h): sc-43752-SH, EN-1 shRNA Plasmid (m): sc-45653-SH, EN-1 shRNA (h) Lentiviral Particles: sc-43752-V and EN-1 shRNA (m) Lentiviral Particles: sc-45653-V.

EN-1 (H-55) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

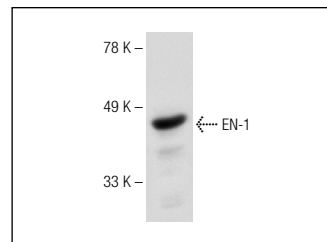
Molecular Weight of EN-1: 40 kDa.

Positive Controls: MCF7 nuclear extract: sc-2149 or PC-3 nuclear extract: sc-2152.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



EN-1 (H-55): sc-66876. Western blot analysis of EN-1 expression in PC-3 nuclear extract.

RESEARCH USE

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

MONOS
Satisfaction
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Try **EN-1 (E-12): sc-398534** or **EN-1 (3-RY3): sc-134328**, our highly recommended monoclonal alternatives to EN-1 (H-55).