

EN-2 (M-90): sc-66878

BACKGROUND

The engrailed-2 gene, EN2, 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. During early brain development mouse EN-2 is expressed in a broad band across most of the mid-hindbrain region. EN-2 is also expressed in mouse myoblasts and has been associated with cerebellar hypoplasia.

REFERENCES

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- 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.
- Ohuchi, H., et al. 1999. FGF10 can induce FGF8 expression concomitantly with En1 and R-fng expression in chick limb ectoderm, independent of its dorsoventral specification. *Dev. Growth Differ.* 41: 665-673.
- Gemel, J., et al. 1999. Fibroblast growth factor-8 expression is regulated by intronic engrailed and Pbx1-binding sites. *J. Biol. Chem.* 274: 6020-6026.
- Li Song, D. and Joyner, A.L. 2000. Two Pax2/5/8-binding sites in Engrailed-2 are required for proper initiation of endogenous mid-hindbrain expression. *Mech. Dev.* 90: 155-165.
- Simon, H.H., et al. 2001. Fate of midbrain dopaminergic neurons controlled by the engrailed genes. *J. Neurosci.* 21: 3126-3134.

CHROMOSOMAL LOCATION

Genetic locus: EN2 (human) mapping to 7q36.3; En2 (mouse) mapping to 5 B1.

SOURCE

EN-2 (M-90) is a rabbit polyclonal antibody raised against amino acids 111-200 mapping within an internal region of EN-2 of mouse 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-66878 X, 200 μ g/0.1 ml.

RESEARCH USE

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

APPLICATIONS

EN-2 (M-90) is recommended for detection of EN-2 of mouse, rat and, to a lesser extent, 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-2 siRNA (h): sc-45658, EN-2 siRNA (m): sc-72138, EN-2 shRNA Plasmid (h): sc-45658-SH, EN-2 shRNA Plasmid (m): sc-72138-SH, EN-2 shRNA (h) Lentiviral Particles: sc-45658-V and EN-2 shRNA (m) Lentiviral Particles: sc-72138-V.

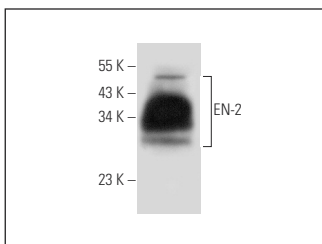
EN-2 (M-90) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of EN-2: 34 kDa.

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-2 (M-90): sc-66878. Western blot analysis of EN-2 expression in human liver tissue extract.

STORAGE

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



Try **EN-2 (1E1): sc-293311**, our highly recommended monoclonal alternative to EN-2 (M-90).