SANTA CRUZ BIOTECHNOLOGY, INC.

EN-1 (R-14): sc-46104

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Engrailed-1 gene, EN-1, 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. FGF10 can induce FGF8 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 Pbx1-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. LocusLink Report (LocusID: 2019). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: EN1 (human) mapping to 2q14.2, EN2 (human) mapping to 7q36; En1 (mouse) mapping to 1 E2.3, En2 (mouse) mapping to 5 B1.

SOURCE

EN-1 (R-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of EN-1 of human origin.

PRODUCT

Each vial contains 200 µg 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-46104 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-46104 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 (R-14) is recommended for detection of EN-1 and EN-2 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

EN-1 (R-14) is also recommended for detection of EN-1 and EN-2 in additional species, including porcine and avian.

EN-1 (R-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

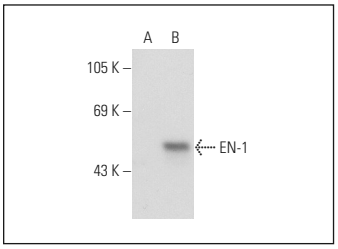
Molecular Weight of EN-1: 40 kDa.

Positive Controls: EN-1 (h): 293T Lysate: sc-128529.

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



EN-1 (R-14): sc-46104. Western blot analysis of EN-1 expression in non-transfected: sc-117752 (**A**) and human EN-1 transfected: sc-128529 (**B**) 293T whole cell lysates.

RESEARCH USE

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