SANTA CRUZ BIOTECHNOLOGY, INC.

EN-2 (A-13): sc-46105

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The engrailed-2 gene, EN-2, 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 cen-tral 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 themid-hindbrain region. EN-2 is also expressed in mouse myoblasts and has been assiciated with cerebellar hypoplasia.

REFERENCES

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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. Li Song, D. and Joyner, A.L. 2000. Two Pax-2/5/8-binding sites in engrailed-2 are required for proper initiation of endogenous mid-hindbrain expression. Mech. Dev. 90: 155-165.
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7. Degenhardt, K., et al. 2001. A role for engrailed-2 in determination of skeletal muscle physiologic properties. Dev. Biol. 231: 175-189.
8. Sarnat, H.B., et al. 2002. Agenesis of the mesencephalon and metencephalon with cerebellar hypoplasia: putative mutation in the EN-2 gene—report of 2 cases in early infancy. Pediatr. Dev. Pathol. 5: 54-68.

CHROMOSOMAL LOCATION

Genetic locus: EN2 (human) mapping to 7q36.3.

SOURCE

EN-2 (A-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of EN-2 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46105 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

EN-2 (A-13) is recommended for detection of EN-2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 shRNA Plasmid (h): sc-45658-SH and EN-2 shRNA (h) Lentiviral Particles: sc-45658-V.

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 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) 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.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.