SANTA CRUZ BIOTECHNOLOGY, INC.

Ethanolamine kinase (3F11): sc-517100

BACKGROUND

Ethanolamine kinase (ETNK1) is a 452 amino acid member of the choline/ethanolamine kinase family. Localized to the cytoplasm, Ethanolamine kinase catalyzes the first step in phosphatidylethanolamine (PtdEtn) biosynthesis via the CDP-Etn pathway. Ethanolamine kinase is specific for ethanolamine and exhibits negligible kinase activity on choline. Expressed in kidney, liver, placenta, heart, leukocyte, ovary and testis, Ethanolamine kinase exists as several isoforms as a result of alternative splicing events. The gene encoding Ethanolamine kinase maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

1. Liu, Y., et al. 1998. Galactosemic cataractogenesis disrupts intracellular interactions and changes the substrate specificity of choline/ethanolamine kinase. Exp. Eye Res. 67: 193-202.
2. Kim, K., et al. 1999. Isolation and characterization of the *Saccharomyces cerevisiae* EKI1 gene encoding ethanolamine kinase. J. Biol. Chem. 274: 14857-14866.
3. Yamazaki, N., et al. 2000. Novel expression of equivocal messages containing both regions of choline/ethanolamine kinase and muscle type carnitine palmitoyltransferase I. J. Biol. Chem. 275: 31739-31746.
4. Nyako, M., et al. 2001. Tissue-specific and developmental effects of the easily shocked mutation on ethanolamine kinase activity and phospholipid composition in *Drosophila melanogaster*. Biochem. Genet. 39: 339-349.
5. Kersting, M.C., et al. 2004. Regulation of the yeast EKI1-encoded ethanolamine kinase by inositol and choline. J. Biol. Chem. 279: 35353-35359.
6. Pascual, A., et al. 2005. Ethanolamine kinase controls neuroblast divisions in *Drosophila* mushroom bodies. Dev. Biol. 280: 177-186.
7. Kersting, M.C. and Carman, G.M. 2006. Regulation of the *Saccharomyces cerevisiae* EKI1-encoded ethanolamine kinase by zinc depletion. J. Biol. Chem. 281: 13110-13116.
8. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609858. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: ETNK1 (human) mapping to 12p12.1.

SOURCE

Ethanolamine kinase (3F11) is a mouse monoclonal antibody raised against amino acids 133-228 representing partial length Ethanolamine kinase of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Ethanolamine kinase (3F11) is recommended for detection of Ethanolamine kinase of 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).

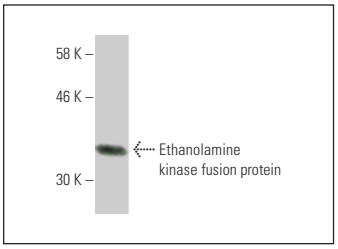
Suitable for use as control antibody for Ethanolamine kinase siRNA (h): sc-77291, Ethanolamine kinase shRNA Plasmid (h): sc-77291-SH and Ethanolamine kinase shRNA (h) Lentiviral Particles: sc-77291-V.

Molecular Weight of Ethanolamine kinase: 60 kDa.

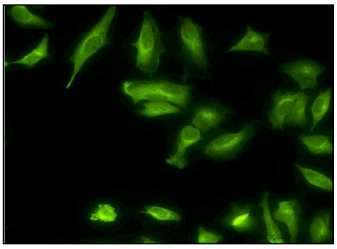
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Ethanolamine kinase (3F11): sc-517100. Western blot analysis of human recombinant Ethanolamine kinase fusion protein.



Ethanolamine kinase (3F11); sc-517100. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.

PROTOCOLS

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