

NADK (m): 293T Lysate: sc-125682

BACKGROUND

NADK (NAD kinase) is a 446 amino acid protein that belongs to the NAD kinase family. Expressed at high levels in placenta and at moderate levels in colon, kidney, brain, heart, liver, spleen, lung, testis and stomach, NADK functions to catalyze the transfer of a phosphate group from ATP to NAD⁺, thereby generating NADP⁺. Once formed, NADP⁺ can be reduced to NADPH, which can subsequently act as an electron donor in biosynthetic reactions. Through its ability to catalyze the formation of NADP⁺, NADK is able to control the concentration of NADPH within the cell. NADK uses divalent metal cations (such as zinc and manganese) as cofactors and exhibits the highest rate of enzymatic activity at a pH of 7.5.

REFERENCES

1. Lerner, F., et al. 2001. Structural and functional characterization of human NAD kinase. *Biochem. Biophys. Res. Commun.* 288: 69-74.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611616. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Turner, W.L., et al. 2004. Cloning and characterization of two NAD kinases from *Arabidopsis* identification of a calmodulin binding isoform. *Plant Physiol.* 135: 1243-1255.
4. Grose, J.H., et al. 2006. Evidence that feedback inhibition of NAD kinase controls responses to oxidative stress. *Proc. Natl. Acad. Sci. USA* 103: 7601-7606.
5. Pollak, N., et al. 2007. NAD kinase levels control the NADPH concentration in human cells. *J. Biol. Chem.* 282: 33562-33571.
6. Singh, R., et al. 2007. Oxidative stress evokes a metabolic adaptation that favors increased NADPH synthesis and decreased NADH production in *Pseudomonas fluorescens*. *J. Bacteriol.* 189: 6665-6675.

CHROMOSOMAL LOCATION

Genetic locus: Nadk (mouse) mapping to 4 E2.

PRODUCT

NADK (m): 293T Lysate represents a lysate of mouse NADK transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

NADK (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive NADK antibodies. Recommended use: 10-20 µl per lane.

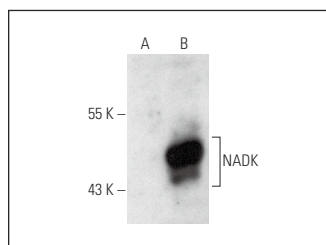
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

NADK (J-07): sc-100347 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse NADK expression in NADK transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SECONDARY 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, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



NADK (J-07): sc-100347. Western blot analysis of NADK expression in non-transfected: sc-117752 (A) and mouse NADK transfected: sc-125682 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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