SANTA CRUZ BIOTECHNOLOGY, INC.

# NFS1 (h2): 293T Lysate: sc-117073

## BACKGROUND

NFS1 (nitrogen fixation 1), also known as NIFS or IscS (cysteine desulfurase), is a member of the class V pyridoxal-phosphate-dependent aminotransferase family and localizes to the cytoplasm or mitochondrion, depending on which form is generated based on cytosolic pH. Highest expression levels of NFS1 are found in heart and skeletal muscle. Lower levels of expression are also found in liver, brain and pancreas. NFS1 is responsible for catalyzing the removal of sulfur from cysteine to form alanine, thereby supplying the inorganic sulfur for iron-sulfur (Fe-S) clusters. Fe-S clusters function as essential cofactors in a wide variety of events, including facilitation of electron transfer processes in oxidative phosphorylation, catalysis of enzymatic reactions in aconitase and dehydratases and maintenance of structural integrity in the DNA repair enzyme endonuclease III.

## REFERENCES


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3. Land, T. and Rouault, T.A. 1999. Targeting of a human iron-sulfur cluster assembly enzyme, NIFS, to different subcellular compartments is regulated through alternative AUG utilization. Mol. Cell 2: 807-815.
4. Tong, W.H. and Rouault, T. 2000. Distinct iron-sulfur cluster assembly complexes exist in the cytosol and mitochondria of human cells. EMBO J. 19: 5692-5700.
5. Olson, J.W., Agar, J.N., Johnson, M.K. and Maier, R.J. 2001. Characterization of the NIFU and NIFS Fe-S cluster formation proteins essential for viability in *Heliobacter pylori*. Biochemistry 39: 16213-16219.
6. Tong, W.H., Jameson, G.N., Huynh, B.H. and Rouault, T.A. 2003. Subcellular compartmentalization of human NFU, an iron-sulfur cluster scaffold protein, and its ability to assemble a [4Fe-4S] cluster. Proc. Natl. Acad. Sci. USA 100: 9762-9767.
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## CHROMOSOMAL LOCATION

Genetic locus: NFS1 (human) mapping to 20q11.22.

## PRODUCT

NFS1 (h2): 293T Lysate represents a lysate of human NFS1 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.

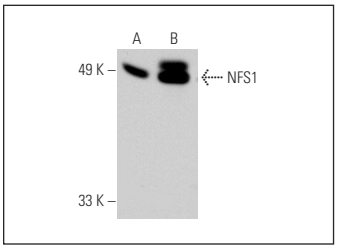
## APPLICATIONS

NFS1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive NFS1 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.

NFS1 (2635E1a): sc-81107 is recommended as a positive control antibody for Western Blot analysis of enhanced human NFS1 expression in NFS1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## DATA




NFS1 (2635E1a): sc-81107. Western blot analysis of NFS1 expression in non-transfected: sc-117752 (**A**) and human NFS1 transfected: sc-117073 (**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.