

Asparagine synthetase (F-3): sc-376151

BACKGROUND

Glutamine-hydrolyzing Asparagine synthetase is also commonly designated cell cycle control protein TS11. Asparagine synthetase plays an important role in the amino-acid biosynthesis pathway and is also important for L-asparagine biosynthesis. Via the L-glutamine route, it is involved in the synthesis of L-asparagine from L-aspartate. The protein contains one Asparagine synthetase domain and one type-2 glutamine amidotransferase domain. The cell-cycle regulated gene encoding for Asparagine synthetase, *ts11*, is necessary for G₁ progression.

REFERENCES

- Andrulis, I.L., et al. 1987. Isolation of human cDNAs for Asparagine synthetase and expression in Jensen rat sarcoma cells. *Mol. Cell. Biol.* 7: 2435-2443.
- Van Heeke, G., et al. 1989. The N-terminal cysteine of human Asparagine synthetase is essential for glutamine-dependent activity. *J. Biol. Chem.* 264: 19475-19477.
- Greco, A., et al. 1989. Organization and expression of the cell cycle gene, *ts11*, that encodes Asparagine synthetase. *Mol. Cell. Biol.* 9: 2350-2359.
- Chen, H., et al. 2004. Amino acid deprivation induces the transcription rate of the human Asparagine synthetase gene through a timed program of expression and promoter binding of nutrient-responsive basic region/leucine zipper transcription factors as well as localized histone acetylation. *J. Biol. Chem.* 279: 50829-50839.
- Krejci, O., et al. 2004. Upregulation of Asparagine synthetase fails to avert cell cycle arrest induced by L-asparaginase in TEL/AML1-positive leukaemic cells. *Leukemia* 18: 434-441.
- Fine, B.M., et al. 2005. A genome-wide view of the *in vitro* response to L-asparaginase in acute lymphoblastic leukemia. *Cancer Res.* 65: 291-299.

CHROMOSOMAL LOCATION

Genetic locus: *ASNS* (human) mapping to 7q21.3; *Asns* (mouse) mapping to 6 A1.

SOURCE

Asparagine synthetase (F-3) is a mouse monoclonal antibody raised against amino acids 1-250 mapping at the N-terminus of Asparagine synthetase of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

Asparagine synthetase (F-3) is recommended for detection of Asparagine synthetase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 Asparagine synthetase siRNA (h): sc-60212, Asparagine synthetase siRNA (m): sc-60213, Asparagine synthetase shRNA Plasmid (h): sc-60212-SH, Asparagine synthetase shRNA Plasmid (m): sc-60213-SH, Asparagine synthetase shRNA (h) Lentiviral Particles: sc-60212-V and Asparagine synthetase shRNA (m) Lentiviral Particles: sc-60213-V.

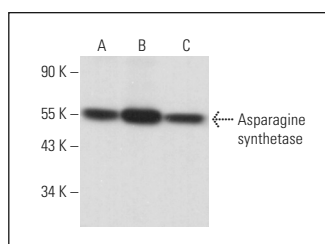
Molecular Weight of Asparagine synthetase: 64 kDa.

Positive Controls: BYDP whole cell lysate: sc-364368, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

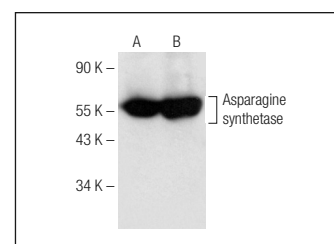
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 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



Asparagine synthetase (F-3): sc-376151. Western blot analysis of Asparagine synthetase expression in BYDP (A), Neuro-2A (B) and PC-12 (C) whole cell lysates.



Asparagine synthetase (F-3): sc-376151. Western blot analysis of Asparagine synthetase expression in K-562 (A) and Jurkat (B) whole cell lysates.

PROTOCOLS

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