SANTA CRUZ BIOTECHNOLOGY, INC.

Asparagine synthetase (G-10): sc-365809

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-asparaine 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 G_1 progression.

REFERENCES

1. 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.
2. Greco, A., et al. 1989. Organization and expression of the cell cycle gene, ts11, that encodes Asparagine synthetase. Mol. Cell. Biol. 9: 2350-2359.
3. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Asparagine synthetase (G-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 171-200 near the N-terminus of Asparagine synthetase of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Asparagine synthetase (G-10) is available conjugated to agarose (sc-365809 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365809 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365809 PE), fluorescein (sc-365809 FITC), Alexa Fluor® 488 (sc-365809 AF488), Alexa Fluor® 546 (sc-365809 AF546), Alexa Fluor® 594 (sc-365809 AF594) or Alexa Fluor® 647 (sc-365809 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365809 AF680) or Alexa Fluor® 790 (sc-365809 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365809 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

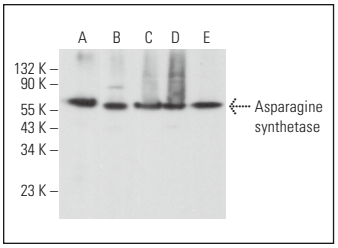
Asparagine synthetase (G-10) is recommended for detection of Asparagine synthetase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). Asparagine synthetase (G-10) is also recommended for detection of Asparagine synthetase in additional species, including canine, bovine, porcine and avian.

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.

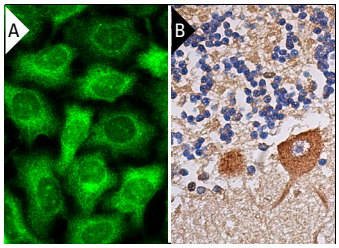
Molecular Weight of Asparagine synthetase: 64 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, U-251-MG whole cell lysate: sc-364176 or MCF7 whole cell lysate: sc-2206.

DATA



Asparagine synthetase (G-10): sc-365809. Western blot analysis of Asparagine synthetase expression in K-562 (**A**), U-251-MG (**B**), MCF7 (**C**), Ramos (**D**) and HUV-EC-C (**E**) whole cell lysates.



Asparagine synthetase (G-10): sc-365809. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells and cells in granular layer (**B**).

SELECT PRODUCT CITATIONS

1. Sanchez, G., et al. 2016. A novel role for CARM1 in promoting nonsense-mediated mRNA decay: potential implications for spinal muscular atrophy. Nucleic Acids Res. 44: 2661-2676.
2. Boku, S., et al. 2020. Deactivation of glutaminolysis sensitizes PIK3CA-mutated colorectal cancer cells to aspirin-induced growth inhibition. Cancers 12: 1097.
3. Aguilar, C., et al. 2021. Reprogramming of microRNA expression via E2F1 downregulation promotes *Salmonella* infection both in infected and bystander cells. Nat. Commun. 12: 3392.

RESEARCH USE

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