

Biotin (33): sc-101339

BACKGROUND

Biotin, a water-soluble B complex vitamin, is required by all organisms but can only be synthesized by yeasts, molds, algae, some plant species and bacteria. Biotin, a tetrahydrothiophene ring fused with an ureido (tetrahydroimidazole) ring, is important in the catalysis of essential metabolic reactions to synthesize fatty acids, to metabolize leucine and in gluconeogenesis. Human intestinal bacteria generally produce in excess of the body's daily Biotin requirement. The occurrence of Biotin in nature is widespread and, although extremely rare, Biotin deficiency is associated with dermatitis, nausea, loss of hair, depression, muscle pain and reproductive disturbances.

SOURCE

Biotin (33) is a mouse monoclonal antibody raised against Biotin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Biotin (33) is available conjugated to agarose (sc-101339 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101339 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101339 PE), fluorescein (sc-101339 FITC), Alexa Fluor® 488 (sc-101339 AF488), Alexa Fluor® 546 (sc-101339 AF546), Alexa Fluor® 594 (sc-101339 AF594) or Alexa Fluor® 647 (sc-101339 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101339 AF680) or Alexa Fluor® 790 (sc-101339 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

Biotin (33) is recommended for detection of both free and carrier protein bound Biotin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:100), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); also recommended for detection of biocytin.

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.

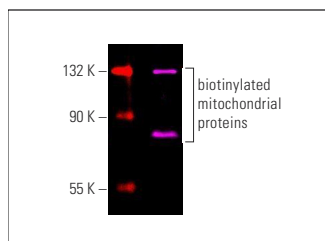
STORAGE

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

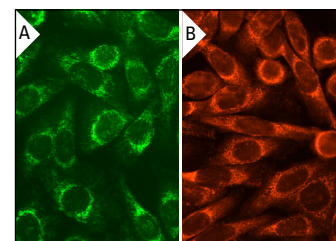
RESEARCH USE

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

DATA



Biotin (33) Alexa Fluor® 546: sc-101339 AF546. Direct fluorescent western blot analysis of biotinylated mitochondrial proteins in HeLa whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 790: sc-516731.



Biotin (33) Alexa Fluor® 488: sc-101339 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing mitochondrial localization of biotinylated proteins. Blocked with UltraCruz® Blocking Reagent: sc-516214 (A). Biotin (33) Alexa Fluor® 546: sc-101339 AF546. Direct immunofluorescence staining of formalin-fixed SW480 cells showing mitochondrial localization of biotinylated proteins. Blocked with UltraCruz® Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

1. Le May, N., et al. 2012. XPG and XPF endonucleases trigger chromatin looping and DNA demethylation for accurate expression of activated genes. *Mol. Cell* 47: 622-632.
2. Henry, C.E., et al. 2016. Anti-PEG antibodies alter the mobility and biodistribution of densely PEGylated nanoparticles in mucus. *Acta Biomater.* 43: 61-70.
3. Udeshi, N.D., et al. 2017. Antibodies to Biotin enable large-scale detection of biotinylation sites on proteins. *Nat. Methods* 14: 1167-1170.
4. Muñoz-Vargas, M.A., et al. 2018. Endogenous hydrogen sulfide (H₂S) is up-regulated during sweet pepper (*Capsicum annuum* L.) fruit ripening. *In vitro* analysis shows that NADP-dependent isocitrate dehydrogenase (ICDH) activity is inhibited by H₂S and NO. *Nitric Oxide* 81: 36-45.
5. Haeussler, K., et al. 2019. Glucose 6-phosphate dehydrogenase 6-phosphogluconolactonase: characterization of the *Plasmodium vivax* enzyme and inhibitor studies. *Malar. J.* 18: 22.
6. Yeon, M., et al. 2021. The CAGE-MiR-181b-5p-S1PR1 axis regulates anticancer drug resistance and autophagy in gastric cancer cells. *Front. Cell Dev. Biol.* 9: 666387.
7. Yang, R., et al. 2022. Posttranslational S-nitrosylation modification regulates HMGB1 secretion and promotes its proinflammatory and neurodegenerative effects. *Cell Rep.* 40: 111330.
8. Wu, H.H., et al. 2023. The SWIB/MDM2 motif of UBE4B activates the p53 pathway. *Mol. Ther. Nucleic Acids* 31: 466-481.

PROTOCOLS

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