

PRODUCT INFORMATION



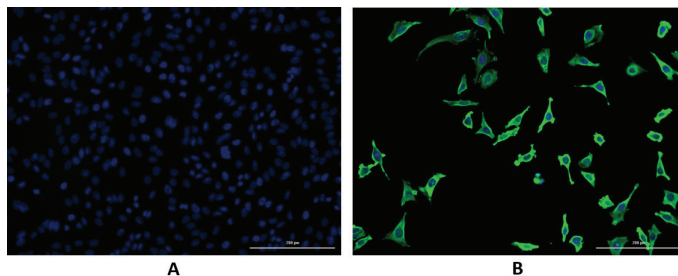
SREBP-2 Monoclonal Antibody (Clone 1B7)

Item No. 27231

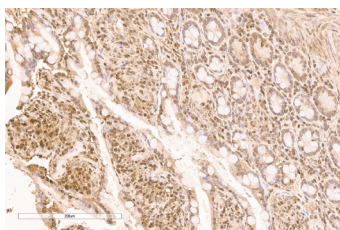
Overview and Properties

Contents:	This vial contains 100 µg of protein G-purified monoclonal antibody.
Synonyms:	SREBF2, Sterol Regulatory Element-binding Protein-2, Sterol Regulatory Element-binding Transcription Factor 2
Immunogen:	Peptide from an internal region of the human SREBP-2 protein
Species Reactivity:	(+) Human; other species not tested
Uniprot No.:	Q12772
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	1B7
Host:	Mouse
Isotype:	IgG2b
Applications:	Immunocytochemistry (ICC), Immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution is 1:200 for ICC and IHC and 1:500 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Immunofluorescence staining of HeLa cells. Cells were fixed with 3.7% PFA, permeabilized, and blocked with 1% fetal bovine serum. Cells were probed with the indicated antibodies and counterstained with Hoescht. **Panel A:** No primary antibody control with Cayman's Goat Anti-Mouse (IgG+IgM) FITC secondary antibody (Item No. 10006617) at 1:100. **Panel B:** SREBP-2 Monoclonal Antibody (Clone 1B7) (Item No. 27231) at 1:200 followed by Cayman's Goat Anti-Mouse (IgG+IgM) FITC secondary antibody at 1:100.



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human small intestine tissue after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with Cayman's SREBP-2 Monoclonal Antibody (Clone 1B7) (Item No. 27231), at a 1:200 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

Sterol regulatory element-binding protein-2 (SREBP-2) is a membrane-bound transcription factor encoded by the *SREBF2* gene in humans and is involved in the regulation of cholesterol biosynthesis and uptake.¹⁻³ Similar to SREBP-1a and SREBP-1c, SREBP-2 is comprised of an N-terminal acidic domain, a basic-helix-loop-helix leucine zipper (bHLH-Zip) sequence, two transmembrane segments, and a regulatory C-terminal domain.¹ In the absence of sterols, SREBP-2 undergoes two sequential proteolytic cleavage events resulting in release of the bHLH-Zip-containing N terminus from the endoplasmic reticulum membrane, followed by translocation to the nucleus.^{1,2} Nuclear SREBP-2 (nSREBP-2) binds to sterol response elements (SREs) in DNA and regulates expression of genes encoding HMG-CoA synthase, HMG-CoA reductase, farnesyl diphosphate synthase, and squalene synthase, among others.² *Srebp2* is ubiquitously expressed in mouse tissues and knockout of *Srebp2* is embryonic lethal in mice.^{2,4} Hepatic expression of *SREBF2* is seven- and three-fold higher in patients with non-alcoholic steatohepatitis (NASH) and steatosis, respectively, than that of healthy individuals.⁵ Cayman's SREBP-2 Monoclonal Antibody (Clone 1B7) can be used for immunocytochemistry, immunohistochemistry, and Western blot applications.

References

1. Brown, M.S. and Goldstein, J.L. The SREBP pathway: Regulation of cholesterol metabolism by proteolysis of a membrane-bound transcription factor. *Cell* **89(3)**, 331-340 (1997).
2. Horton, J.D., Goldstein, J.L., and Brown, M.S. SREBPs: Activators of the complete program of cholesterol and fatty acid synthesis in the liver. *J. Clin. Invest.* **109(9)**, 1125-1131 (2002).
3. Eberlé, D., Hegarty, B., Bossard, P., *et al.* SREBP transcription factors: Master regulators of lipid homeostasis. *Biochimie* **86(11)**, 839-848 (2004).
4. Iizuka, K., Bruick, R.K., Liang, G., *et al.* Deficiency of carbohydrate response element-binding protein (ChREBP) reduces lipogenesis as well as glycolysis. *Proc. Natl. Acad. Sci. USA* **101(19)**, 7281-7286 (2004).
5. Caballero, F., Fernández, A., De Lacy, A.M., *et al.* Enhanced free cholesterol, SREBP-2 and StAR expression in human NASH. *J. Hepatol.* **50(4)**, 789-796 (2009).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM