

# S-100A3 (A-11): sc-514339

## BACKGROUND

The S-100 protein family consists of a group of calcium-binding proteins that are exclusively expressed in vertebrates and exhibit cell and tissue-specific expression. The expression levels of its members differ in various pathological conditions. The extracellular functions of the S-100 family may include the ability to enhance neurite outgrowth, involvement in inflammation and motility of tumor cells. S-100A3 (S100 calcium binding protein A3), also known as S100E, is a 101 amino acid cysteine-rich protein that belongs to the S-100 family of proteins. Expressed specifically at the inner endocuticle of hair fibers, S-100A3 contains two EF-hand domains and exists as a multimer. S-100A3 binds calcium with low affinity and zinc with high affinity and is believed to play a role in the calcium-dependent differentiation of cuticle cells and in the formation of hair shafts.

## REFERENCES

- Engelkamp, D., et al. 1993. Six S100 genes are clustered on human chromosome 1q21: identification of two genes coding for the two previously unreported calcium-binding proteins S-100D and S-100E. *Proc. Natl. Acad. Sci. USA* 90: 6547-6551.
- Schäfer, B.W., et al. 1995. Isolation of a YAC clone covering a cluster of nine S-100 genes on human chromosome 1q21: rationale for a new nomenclature of the S-100 calcium-binding protein family. *Genomics* 25: 638-643.
- Mittl, P.R., et al. 2002. Metal-free MIRAS phasing: structure of apo-S-100A3. *Acta Crystallogr. D Biol. Crystallogr.* 58: 1255-1261.
- Kizawa, K., et al. 2002. Characterization of the cysteine-rich calcium-binding S-100A3 protein from human hair cuticles. *Biochem. Biophys. Res. Commun.* 299: 857-862.
- Fritz, G., et al. 2002. The crystal structure of metal-free human EF-hand protein S-100A3 at 1.7-Å resolution. *J. Biol. Chem.* 277: 33092-33098.

## CHROMOSOMAL LOCATION

Genetic locus: S100A3 (human) mapping to 1q21.3.

## SOURCE

S-100A3 (A-11) is a mouse monoclonal antibody raised against amino acids 37-101 mapping at the C-terminus of S-100A3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

S-100A3 (A-11) is available conjugated to agarose (sc-514339 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514339 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514339 PE), fluorescein (sc-514339 FITC), Alexa Fluor® 488 (sc-514339 AF488), Alexa Fluor® 546 (sc-514339 AF546), Alexa Fluor® 594 (sc-514339 AF594) or Alexa Fluor® 647 (sc-514339 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514339 AF680) or Alexa Fluor® 790 (sc-514339 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

S-100A3 (A-11) is recommended for detection of S-100A3 of 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 S-100A3 siRNA (h): sc-78754, S-100A3 shRNA Plasmid (h): sc-78754-SH and S-100A3 shRNA (h) Lentiviral Particles: sc-78754-V.

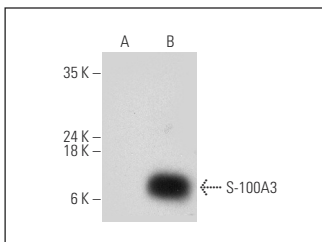
Molecular Weight of S-100A3 monomer: 12 kDa.

Positive Controls: S-100A3 (h): 293 Lysate: sc-113084.

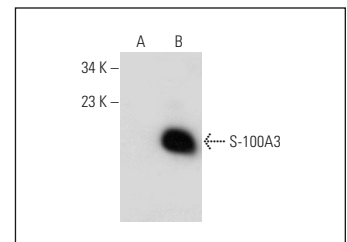
## RECOMMENDED SUPPORT REAGENTS

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



S-100A3 (A-11): sc-514339. Western blot analysis of S-100A3 expression in non-transfected: sc-110760 (A) and human S-100A3 transfected: sc-113084 (B) 293 whole cell lysates.



S-100A3 (A-11): sc-514339. Western blot analysis of S-100A3 expression in non-transfected: sc-110760 (A) and sc-113084 (B) 293 whole cell lysates.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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