

Human S100A16 Rabbit Polyclonal Antibody

Cat# CY-P1034

50 µg (0.5 mg/mL x 100 µL)

Clone Name	Applications	Species Cross-Reactivity	Molecular Wt.	Source Isotype
	WB	H	11 kDa	Rabbit IgG

Background

The S100 proteins comprise a family of 25 small acidic proteins (9–13 kDa) that are characterized by the presence of two calcium-binding EF-hand motifs (1, 2). Among the different human S100 genes, 21 are clustered at chromosome locus 1q21 (3), a region frequently involved in chromosomal rearrangement in cancers (4–6). Thirteen S100 proteins (S100A2, S100A3, S100A4, S100A6, S100A7, S100A8, S100A9, S100A10, S100A11, S100A12, S100A15, S100B, and S100P) are expressed in normal and/or diseased epidermis.

S100A16 is a newly discovered member of a large S100 family. It shares homology with S100A7, S100A13, and S100A14 genes that had been identified on the microarrays as potential circulating tumor cells markers and has minimal expression in leukocytes (7). Up-regulation of S100A16 was found in many tumors implying a central cellular function related to malignant transformation (2). S100A16 has previously been reported in a wide spectrum of adult human tissues including brain (2). S100A16 is widely distributed throughout the adult mouse brain and predominantly expressed within specific astrocyte populations (8). CAG repeats were identified in the transcribed region, which might be associated with diseases of the nervous system (9). The protein was found to accumulate within nucleoli and to translocate to the cytoplasm in response to Ca²⁺ stimulation (8).

Specificity/Sensitivity: Human S100A16 Antibody detects endogenous levels of S100A16 protein.

Source/Purification: Polyclonal antibody is produced by immunizing rabbit with a recombinant human S100A16 produced by *E. coli*. IgG is purified by immunoaffinity chromatography.

Recommended Antibody Dilutions: Western blotting: 0.5-1 µg/mL.

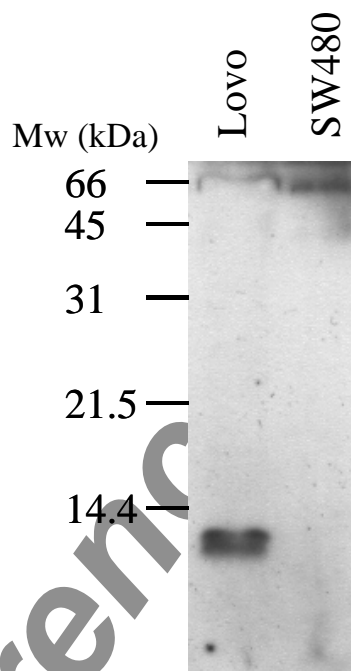
Storage: Supplied in 20 mM phosphate buffer (pH 7.5), 300 mM NaCl, 50 % glycerol. Store at -20°C.

Applications Key: WB: Western IP: Immunoprecipitation IHC: Immunohistochemistry IC: Immunocytochemistry F: Flow cytometry E: ELISA FP: Fluorescence Polarization assay

Species Cross-Reactivity Key: H: human M: mouse R: rat Hm: hamster Mk: monkey Mi: mink C: chicken X: *Xenopus* Z: zebra fish All: all species expected Species enclosed in parentheses are predicted to react based on 100% sequence homology.

General References:

1. Heizmann, C. W. (2005) *J. Pediatrics* 147, 731–738
2. Marenholz, I., and Heizmann, C. W. (2004) *Biochem. Biophys. Res. Commun.* 313, 237–244
3. Santamaria-Kisiel L, Rintala-Dempsey AC, Shaw GS. (2006) *Biochem J.* 396, 201-14.
4. Weterman, M. A., Wilbrink, M., Dijkhuizen, T., van den Berg, E., and Geurts van Kessel, A. (1996) *Hum. Genet.* 98, 16–21
5. Gendler, S. J., Cohen, E. P., Craston, A., Duhig, T., Johnstone, G., and Barnes, D. (1990) *Int. J. Cancer* 45, 431–435
6. Nilsson, M., Meza-Zepeda, L. A., Mertens, F., Forus, A., Myklebost, O., and Mandahl, N. (2004) *Int. J. Cancer* 109, 363–369
7. Smirnov DA, Zweitzig DR, Foulk BW, Miller MC, Doyle GV, Pienta KJ, Meropol NJ, Weiner LM, Cohen SJ, Moreno JG, Connelly MC, Terstappen LW, O'Hara SM. *Cancer Res.* (2005) 65, 4993-4997.
8. Sturchler E, Cox JA, Durussel I, Weibel M, Heizmann CW. *J Biol Chem.* (2006) 281, 38905-38917.
9. Reddy PH, Stockburger E, Gillevet P, Tagle DA. *Genomics.* (1997) 46, 174-182.

Fig.1 Western blot analysis of Human S100A16

Western Immunoblotting Protocol

Solutions and Reagents

Note: Prepare solutions with Milli-Q or equivalently purified water.

Transfer Buffer: 25 mM Tris base, 0.2 M glycine, 20% methanol (pH 8.5)

SDS Sample Buffer (1X): 62.5 mM Tris-HCl (pH 6.8 at 25°C), 2% w/v SDS, 10% glycerol, 50 mM DTT, 0.01% w/v bromophenol blue or phenol red

Blocking Buffer: 1X TBS, 0.1% Tween-20 with 5% w/v nonfat dry milk; for 150 mL, add 15 mL 10X TBS to 135 mL water, mix. Add 7.5 g nonfat dry milk and mix well. While stirring, add 0.15 mL Tween-20 (100%).

10X TBS (Tris-buffered saline): To prepare 1 liter of 10X TBS: 24.2 g Tris base, 80 g NaCl; adjust pH to 7.6 with HCl (use at 1X).

Primary Antibody Dilution Buffer: 1X TBS, 0.1% Tween-20 with 5% blocking agent for 20 mL, add 2 mL 10X TBS to 18 mL water, mix. Add 1.0 g BSA and mix well. While stirring, add 20 µL Tween-20 (100%).

Chemiluminescent HRP Detection: secondary anti-rabbit antibody conjugated to horseradish peroxidase (HRP), ECL™ chemiluminescent reagent (Amersham Pharmacia)

Wash Buffer TBS/T: 1X TBS, 0.1% Tween-20

Blotting Membrane: This protocol has been optimized for nitrocellulose membranes, which we recommend. PVDF membranes may also be used.

Protein Blotting

A general protocol for sample preparation is described below.

1. Treat cells by adding fresh media containing regulator for desired time.
2. Aspirate media from cultures; wash cells with 1X PBS, aspirate.
3. Lyse cells by adding 1X SDS Sample Buffer (100 µL per well of 6-well plate or 500 µL per plate of 10 cm² plate). Immediately scrape the cells off the plate and transfer the extract to a microcentrifuge tube. Keep on ice.
4. Sonicate for 10–15 seconds to shear DNA and reduce sample viscosity.
5. Heat a 20 µL sample to 95–100°C for 5 minutes, cool on ice.
6. Microcentrifuge for 5 minutes.
7. Load 20 µL onto SDS-PAGE gel (10 cm x 10 cm).
8. Electrotransfer to nitrocellulose membrane.

Membrane Blocking and Antibody Incubations

Note: Volumes are for 10 cm x 10 cm (100 cm²) of membrane; for different sized membranes, adjust volumes accordingly.

1. (Optional) After transfer, wash nitrocellulose membrane with 25 mL TBS for 5 minutes at room temperature.
2. Incubate membrane in 25 mL of Blocking Buffer for 1 hour at room temperature.
3. Wash 3 times for 5 minutes each with 15 mL of TBS/T.
4. Incubate membrane and primary antibody (at the appropriate dilution) in 10 mL Primary Antibody Dilution Buffer with gentle agitation overnight at 4°C.
5. Wash 3 times for 5 minutes each with 15 mL of TBS/T.
6. Incubate membrane with HRP-conjugated secondary antibody (1:3000 in 10 mL of Blocking Buffer with gentle agitation for 1 hour at room temperature.
7. Wash 3 times for 5 minutes each with 15 mL of TBS/T.

Detection of Proteins

1. Incubate membrane with 4 mL ECL™ with gentle agitation for 1 minute at room temperature.
2. Drain membrane of excess developing solution, do not let dry, wrap in plastic wrap and expose to x-ray film. An initial ten-second exposure should indicate the proper exposure time.

Related Products

- * CircuLex S100A13 ELISA Kit: Cat# CY-8057
- * CircuLex S100A12 ELISA Kit: Cat# CY-8058
- * CircuLex S100P ELISA Kit: Cat# CY-8060
- * CircuLex S100A8-MRP8 ELISA Kit: Cat# CY-8061
- * CircuLex S100A9-MRP14 ELISA Kit: Cat# CY-8062
- * CircuLex S100A11 ELISA Kit: Cat# CY-8063
- * CircuLex S100A14 ELISA Kit: Cat# CY-8064
- * CircuLex S100A7/Psoriasin ELISA Kit: Cat# CY-8073
- * CircuLex S100A4 ELISA Kit Ver.2: Cat# CY-8086

- * Anti-Human S100A3 (Clone YK-3E3): Cat# CY-M1039
- * Anti-Human S100A4 (p9Ka): Cat# CY-P1026
- * Anti-Human S100P: Cat# CY-P1028
- * Anti-Human S100A10: Cat# CY-P1033
- * Anti-Human S100A16: Cat# CY-P1034
- * Anti-Human S100A3: Cat# CY-P1039
- * Anti-Human S100A2: Cat# CY-P1040

- * Human S100B: Cat# CY-R2250
- * Human S100A1: Cat# CY-R2251
- * Human S100A2: Cat# CY-R2252
- * Human S100A3: Cat# CY-R2253
- * Human S100A4: Cat# CY-R2254
- * Human S100A5: Cat# CY-R2255
- * Human S100A6: Cat# CY-R2256
- * Human S100A7: Cat# CY-R2257
- * Human S100A8: Cat# CY-R2258
- * Human S100A9: Cat# CY-R2259-G
- * Human S100A9: Cat# CY-R2259-H
- * Human S100A10: Cat# CY-R2260
- * Human S100A12: Cat# CY-R2262-G
- * Human S100A12: Cat# CY-R2262-H
- * Human S100A13: Cat# CY-R2263
- * Human S100A14: Cat# CY-R2264
- * Human S100A16: Cat# CY-R2266
- * Human S100P: Cat# CY-R2267
- * Human S100A11: Cat# CY-R2269

- * Human S100A1 Low Endotoxin: Cat# CY-R2451
- * Human S100A3 Low Endotoxin: Cat# CY-R2453
- * Human S100A4 Low Endotoxin: Cat# CY-R2454
- * Human S100A7 Low Endotoxin: Cat# CY-R2457
- * Human S100A8 Low Endotoxin: Cat# CY-R2458



Human S100A16 Rabbit Polyclonal Antibody

Product Data Sheet

For Research Use Only, Not for use in diagnostic procedures

- * Human S100A9 Low Endotoxin: Cat# CY-R2459-G
- * Human S100A11 Low Endotoxin: Cat# CY-R2461
- * Human S100A12 Low Endotoxin: Cat# CY-R2462-G
- * Human S100A14 Low Endotoxin: Cat# CY-R2464
- * Human S100P Low Endotoxin: Cat# CY-R2467

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