Mouse S100A13 Biotinylated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: BAF4328

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse S100A13 in Western blots. In Western blots, approximately 20% cross-reactivity with recombinant mouse Nephrin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant mouse S100A13 Ala2-Lys98 Accession # P97352
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse S100A13 (Catalog # 4328-SA)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

S100A13 is an 11 kDa member of the S100 (soluble in 100% saturated ammonium sulfate) family of vertebrate EF-hand Ca^{++}-binding proteins (1-3). It is widely expressed as a homodimer with 98 amino acid (aa) long subunits (2, 3). Mouse S100A13 shares 87%, 83%, 91%, 86%, 81%, and 53% aa identity with rat, human, bovine, canine, opossum, and chicken S100A13, respectively. Like other S100 proteins, S100A13 is small and generally acidic, but it contains a basic residue-rich sequence at the C-terminus, and two EF hand motifs that bind Ca^{++} with differing affinities (2-4). Some S100 proteins, including S100A13, are able to bind the cell surface receptor for advanced glycation end-products (RAGE) (5). Despite lacking a signal sequence, S100A13 plays an important role in Cu^{++}-dependent export of FGF-1 (FGF acidic) and IL-1α from the cell in response to stresses such as heat shock, anoxia, and starvation (6-8). Binding of copper is necessary for formation of a multi-protein complex between S100A13, FGF-1 and p40 synaptotagmin-1 (syt-1) (9, 10). Cu^{++} ions supplied by S100A13 are thought to oxidize and downregulate the activity of FGF-1 prior to export (10). Calcium influx may also play a similar role in FGF-1 release from neuronal cells (11). S100A13 is composed of four amphiphilic helices that may interact with acidic phospholipid headgroups. With FGF-1 and syt-1, S100A13 likely perturbs the membrane, which allows the S100A13 protein complex to exit the cell (4, 12). S100A13 has been proposed as a marker for angiogenesis in tumors and endometrium, due to its role in stress-induced export of FGF-1 (13, 14). Based on in house studies, S100A13 has also been found to promote neurite outgrowth from rat cortical embryonic neurons (15).

References:

1. Santamaria-Kisiel, L. *et al.* (2006) Biochem. J. **396**:201.
2. Wicki, R. *et al.* (1996) Biochem. Biophys. Res. Commun. **227**:594.
3. Ridinger, K. *et al.* (2000) J. Biol. Chem. **275**:8686.
4. Li, M. *et al.* (2007) Biochem. Biophys. Res. Commun. **356**:616.
5. Hsieh, H-L. *et al.* (2004) Biochem. Biophys. Res. Commun. **316**:949.
6. Landriscina, M. *et al.* (2001) J. Biol. Chem. **276**:22544.
7. Sivaraja, V. *et al.* (2006) Biophys. J. **91**:1832.
8. Mandinova, A. *et al.* (2003) J. Cell Sci. **116**:2687.
9. Prudovsky, I. *et al.* (2002) J. Cell Biol. **158**:201.
10. Landriscina, M. *et al.* (2001) J. Biol. Chem. **276**:25549.
11. Matsunaga, H. and H. Ueda (2006) Cell. Mol. Neurobiol. **26**:237.
12. Graziani, I. *et al.* (2006) Biochem. Biophys. Res. Commun. **349**:192.
13. Landriscina, M. *et al.* (2006) J. Neurooncol. **80**:251.
14. Hayrabedyan, S. *et al.* (2005) Reprod. Biol. **5**:51.
15. R&D Sytems (2007) In-house data.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449