

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human S100A13 in ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse S100A13 is observed.                                                                                                                         |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 854114                                                                                                                                                                                                                            |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human S100A13<br>Ala2-Lys98<br>Accession # Q99584                                                                                                                                                                                       |
| <b>Conjugate</b>          | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## 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.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

## BACKGROUND

S100A13 is an 11 kDa member of the S100 (soluble in 100% saturated ammonium sulfate) family of vertebrate EF-hand Ca<sup>++</sup>-binding proteins (1-3). It is widely expressed as a homodimer with two 98 amino acid (aa) long subunits (2, 3). Human S100A13 shares 83%, 90%, 91%, 87%, 78% and 47% aa identity with mouse, rat, cow, dog, opossum and chicken S100A13, respectively. Like other S100 proteins, S100A13 is small and generally acidic, but contains a basic residue-rich sequence at the C terminus, and two EF hand motifs that bind with Ca<sup>++</sup> 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<sup>++</sup>-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 (synt-1) (9, 10). Cu<sup>++</sup> 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 synt-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).

## PRODUCT SPECIFIC NOTICES

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