

DESCRIPTION

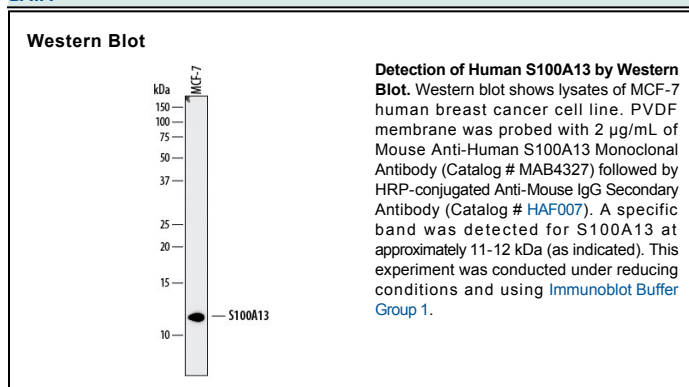
Species Reactivity	Human
Specificity	Detects human S100A13 in ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse S100A13 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 854114
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human S100A13 Ala2-Lys98 Accession # Q99584
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

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	2 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 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 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⁺⁺ 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-1 α 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:

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