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# Recombinant Human S100 Calcium Binding Protein B (S100B) -- Western Blotting Control

Catalog No.	Size	Species	Protein Accession No.
230-00002-WBC	100 µL (20 lanes)	Human	P04271

### Synonyms

S100; S100beta; S-100 calcium-binding protein, beta chain; S100 calcium binding protein B.

### Description

S100B protein plays an important role in neurite extension, proliferation of melanoma cells, stimulation of  $Ca^{2+}$  fluxes, inhibition of PKC-mediated phosphorylation, astrocytosis and axonal proliferation, and inhibition of microtubule assembly. S100B is glial-specific and is expressed primarily by a subtype of mature astrocytes that ensheath blood vessels and by NG2-expressing cells. Chromosomal rearrangements and altered expression of this gene have been implicated in several neurological, neoplastic, and other types of diseases, including Alzheimer's disease, Down's syndrome, epilepsy, amyotrophic lateral sclerosis, melanoma, and type I diabetes. It is found that S100B interacts with S100A11, IQGAP1, S100 calcium binding protein A1, Tau protein, S100A6, P53, etc.

### Preparation

The full-length of human S100B gene was cloned and expressed in *Escherichia coli*. The recombinant protein has an N-terminal 6×histidine tag and was purified by immobilized metal ion affinity chromatography (IMAC).

### Source

Recombinant histidine-tagged protein, purified from *E. coli*.

### Predicted Molecular Mass

~12.5 kDa with the 6×histidine tag.

### Formulation

Liquid. Supplied in 1× SDS Loading Buffer (60 mM Tris-HCl, pH 6.8, 2% SDS, 10% glycerol, 5% 2-mercaptoethanol, 0.002% bromphenol blue).

### Storage

The protein is stable at -20 °C freezer.

### Purity

>95%, determined by SDS-PAGE and stained with Comassie blue.

### Applications

Before use, heat the WBC control at 95 °C for 5 minutes. Spin down the sample and load 5 µL per lane onto SDS-PAGE gel.

### References

1. Mbele, GO, et al. (2002). The zinc- and calcium-binding S100B interacts and co-localizes with IQGAP1 during dynamic rearrangement of cell membranes. *J. Biol. Chem.* **277** (51): 49998–50007.
2. Fackler, OT, et al. (1999). Activation of Vav by Nef induces cytoskeletal rearrangements and downstream effector functions. *Mol. Cell.* **3** (6): 729–39.
3. Gentil, BJ, et al. (2001). The giant protein AHNAK is a specific target for the calcium- and zinc-binding S100B protein: potential implications for  $Ca^{2+}$  homeostasis regulation by S100B. *J. Biol. Chem.* **276** (26): 23253–61.
4. Lin, Jing, et al. (2004). Inhibiting S100B restores p53 levels in primary malignant melanoma cancer cells. *J. Biol. Chem.* **279** (32): 34071–7.

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