

S100B Protein, Canine (HEK293, Fc)

Cat. No.:	HY-P700820
Synonyms:	Protein S100; S100 calcium-binding; NEF; S100; 100beta; S100-B
Species:	Canine
Source:	HEK293
Accession:	E2QTP3 (S2-E92)
Gene ID:	/
Molecular Weight:	40-45 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/ μg , determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu\text{g}/\text{mL}$ in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>S100B, a small zinc- and calcium-binding protein highly expressed in astrocytes and abundant in the brain, possesses distinct binding sites for calcium and zinc with varying affinities. While weakly binding calcium, it exhibits tight binding to zinc. Physiological concentrations of potassium ion can antagonize the binding of both divalent cations, particularly affecting high-affinity calcium-binding sites. Functionally, S100B acts as a neurotrophic factor, promoting astrocytosis and axonal proliferation. It also plays a role in the innervation of thermogenic adipose tissue, acting as an adipocyte-derived neurotrophic factor that promotes sympathetic innervation. S100B initiates the activation of STK38 by releasing autoinhibitory intramolecular interactions within the kinase. Post-myocardial infarction, its interaction with AGER may contribute to myocyte apoptosis through the activation of ERK1/2 and p53/TP53 signaling. Additionally, S100B could aid in ATAD3A cytoplasmic processing, preventing aggregation and facilitating mitochondrial localization. Its role extends to mediating calcium-dependent regulation in various physiological processes by interacting with proteins like TPR-containing proteins, modulating their activity. Structurally, S100B forms dimers composed of either two alpha chains, two beta chains, or one alpha and one beta chain, interacting with a multitude of proteins, including CACYBP, ATAD3A, S100A6, CAPZA1, PPP5C, TPPP, and CLSTN3beta, influencing diverse cellular functions.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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