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## S100B (D10G6) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

<b>Applications:</b> W, W-S	<b>Reactivity:</b> H M R	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 10	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P04271	<b>Entrez-Gene Id:</b> 6285
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### Product Usage Information

#### Application

Western Blotting  
Simple Western™

#### Dilution

1:1000  
1:50 - 1:250

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

S100B (D10G6) Rabbit mAb recognizes endogenous levels of total S100B protein.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human S100B protein.

### Background

Despite their relatively small size (8-12 kDa) and uncomplicated architecture, S100 proteins regulate a variety of cellular processes, such as cell growth and motility, cell cycle progression, transcription, and differentiation. To date, 25 members have been identified, including S100A1-S100A18, trichohyalin, filaggrin, repetin, S100P, and S100Z, making it the largest group in the EF-hand, calcium-binding protein family. Interestingly, 14 S100 genes are clustered on human chromosome 1q21, a region of genomic instability. Research studies have demonstrated that significant correlation exists between aberrant S100 protein expression and cancer progression. S100 proteins primarily mediate immune responses in various tissue types but are also involved in neuronal development (1-4).

Each S100 monomer bears two EF-hand motifs and can bind up to two molecules of calcium (or other divalent cation in some instances). Structural evidence shows that S100 proteins form antiparallel homo- or heterodimers that coordinate binding partner proximity in a calcium-dependent (and sometimes calcium-independent) manner. Although structurally and functionally similar, individual members show restricted tissue distribution, are localized in specific cellular compartments, and display unique protein binding partners, which suggests that each plays a specific role in various signaling pathways. In addition to an intracellular role, some S100 proteins have been shown to act as receptors for extracellular ligands or are secreted and exhibit cytokine-like activities (1-4).

S100B is abundantly expressed in astrocytes and is commonly used as an astrocytic marker in studies of the mammalian CNS. S100B is also expressed in immature and mature myelinating oligodendrocytes that are chondroitin sulfate proteoglycan (NG2)-positive (5).

### Background References

1. Heizmann, C.W. et al. (2002) *Front Biosci* 7, d1356-68.
2. Donato, R. (2003) *Microsc Res Tech* 60, 540-51.
3. Marenholz, I. et al. (2004) *Biochem Biophys Res Commun* 322, 1111-22.
4. Santamaria-Kisiel, L. et al. (2006) *Biochem J* 396, 201-14.
5. Hachem, S. et al. (2005) *Glia* 51, 81-97.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting **W-S:** Simple Western™

### Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat

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