Revision 1

Store at -20C

#7677

S100P Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	10	Rabbit	#P25815	6286

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

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

Specificity/Sensitivity

S100P Antibody recognizes endogenous levels of total S100P protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp50 of human S100P protein. Antibodies are purified by protein A and peptide affinity chromatography.

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).

S100P, a member of the S100 family, is a 95 amino acid protein. Its expression is increased in a number of tumors including pancreas, lung, breast, and ovary carcinomas (5) in response to transcriptional activation (6). Abnormally high levels of S100P are thought to contribute to tumor development and metastatic properties (7).

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. Jiang, H. et al. (2012) *J Cancer Res Clin Oncol* 138, 1-9.
6. Gibadulinova, A. et al. (2008) *Oncol Rep* 20, 391-6.
7. Arumugam, T. and Logsdon, C.D. (2011) *Amino Acids* 41, 893-9.

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 **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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