Human/Mouse PTEN
Alexa Fluor® 594-conjugated Antibody

Recombinant Monoclonal Mouse IgG_1 Clone # 217702R

Catalog Number: IC847RT

100 µg

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human PTEN in direct ELISAs.
Source	Recombinant Monoclonal Mouse IgG_1 Clone # 217702R
Purification	Protein A or G purified from cell culture supernatant
Immunogen	*E. coli*-derived recombinant human PTEN Thr2-Val403 Accession # P60484
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Intracellular Staining by Flow Cytometry	0.25-1 µg/10^6 cells	Human U937 histiocytic lymphoma cell line

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

The tumor suppressor gene PTEN (phosphatase and tensin homolog deleted on chromosome 10), also known as MMAC1 (mutated in multiple advanced cancers 1), encodes a phosphatase that contains the catalytic signature motif (HCxxGxxRS/T) found in all members of the protein tyrosine phosphatase family. *In vitro*, the recombinant PTEN has both lipid phosphatase and protein phosphatase activities (1, 2). Interestingly, accumulating evidence has shown that the tumor suppressor activity of PTEN relies on its ability to dephosphorylate phosphatidylinositol (3,4,5)-triphosphate specifically at position 3 of the inositol ring (3). This activity reduces the levels of phosphatidylinositol (3,4,5)-triphosphate which is specifically produced from phosphatidylinositol (4,5)-diphosphate by PI 3-kinase upon activation by a variety of stimuli. Therefore, PTEN antagonizes PI 3-kinase-induced downstream signaling events and cellular processes including cell growth, apoptosis and cell motility. *In vivo*, the importance of PTEN catalytic activity in its tumor suppressor functions is underscored by the fact that the majority of PTEN missense mutations detected in tumor specimens target the phosphatase domain and cause a loss in PTEN phosphatase activity (4).

References:

1. Maehama, T. and J. Dixon (1998) J. Biol. Chem. **273**:13375.
2. Das, S. *et al.* (2003) Proc. Natl. Acad. Sci. USA **100**:7491.
3. Myers, M. *et al.* (1998) Proc. Natl. Acad. Sci. USA **95**:13513.
4. Waite, K. and C. Eng (2002) Am. J. Hum. Genet. **70**:829.

PRODUCT SPECIFIC NOTICES

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