

## Anti-Human PTEN [SP218]

Catalog No.	Description
AN746-5M	6 ml of Ready-to-Use Antibody for use with BioGenex Super Sensitive™ Detection Systems OR equivalent detection system
AN746-10M	10 ml of Ready-to-Use Antibody in a barcode labeled vial for use with BioGenex Super Sensitive™ Detection Systems and i6000™ Automated Staining Systems
NU746-UC	1 ml of Concentrated Antibody for use with BioGenex Super Sensitive™ Detection Systems OR equivalent detection system
NU746-5UC	0.5 ml of Concentrated Antibody for use with BioGenex Super Sensitive™ Detection Systems OR equivalent detection system
AY746-YCD	Ready-to-Use Antibody in Barcode labeled vial for use on the Xmatrix® Elite/Ultra Staining System, 160 tests
AY746-50D	Ready-to-Use Antibody in Barcode labeled vial for use on the Xmatrix® Elite/Ultra Staining System, 50 tests

Clone	Species	Ig Class
SP218	Rabbit	IgG

### Intended Use

**For In Vitro Diagnostic Use.** This antibody is designed for the specific localization of PTEN in formalin-fixed, paraffin-embedded (FFPE) tissue sections. Evaluation must be performed by a qualified pathologist.

### Summary and Explanation

Phosphatidylinositol-3, 4, 5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase (PTEN) is a tumor suppressor and a member in the PI3K/PTEN/Akt pathway. It contains a tensin like domain as well as a catalytic domain similar to that of the dual specificity protein tyrosine phosphatases. Unlike most of the protein tyrosine phosphatases, this protein preferentially dephosphorylates phosphoinositide substrates. The defects of PTEN have been implicated in human cancers from breast, prostate, thyroid, skin, endometrium, head and neck, and brain. Up to 50-60 percent of advanced prostate cancers show abnormal PTEN gene expression or loss of protein expression.

### Storage and Handling

**Store at 2-8°C.** Fresh dilutions, if required, should be prepared prior to use and are stable and steady for up to one day at room temperature (20-26°C). Diluted antibody preparations can be refrigerated or frozen for extended shelf life.

### Principles of the Procedure

Antigen detection by immunohistochemistry (IHC) is a two-step process wherein the primary antibody binds to the antigen of interest and that binding is detected by a chromogen. The [primary antibody](#) may be used in IHC using manual techniques or BioGenex Automated Staining System. Positive and negative controls should always be run simultaneously with all patient specimens.

### Reagents Provided

Rabbit Monoclonal Antibody to PTEN is affinity purified and diluted in PBS, pH 7.2, containing 1% BSA and 0.09% sodium azide.

### Dilution of Primary Antibody

BioGenex Ready-to-Use antibodies have been optimized for use with the recommended BioGenex Detection System and should not require further dilution.

BioGenex concentrated antibodies must be diluted in accordance with the recommended protocol when used with the recommended BioGenex Detection System.

### Recommended Protocol

Refer to the following table for conditions specifically recommended for this antibody. Refer to the BioGenex website for guidance on specific staining protocols or other requirements.

Parameter	BioGenex Recommendations
Control Tissue	PROSTATE CAAs available with BiogenexFB-746N* & FG-746N*
Recommended Dilution for Concentrated Antibody	<b>1:10-25 in HK941</b>
Recommended Pretreatment (Manual/i6000)**	EZ-AR2 (HK522-XAK)
Recommended Pretreatment (Xmatrix)	EZ-AR2 Elegance (HX032-YCD)
Antibody Incubation (Manual/i6000)	30-60 Min at RT
Antibody Incubation (Xmatrix)	30-60 Min at 25°C
Detection System for Manual, Xmatrix & i6000 systems***	Use BioGenex Two-Step <b>OR</b> One-Step Super Sensitive™ Polymer-HRP IHC Detection System/DAB; see p. 2 for more information

\*FB: positive control micro chamberslides, FG: positive control microscopic slides. Xmatrix requires micro chamberslides.

\*\*Pretreatment times will vary based on individual microwave power.

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\*\*\*For automation systems (Xmatrix-Elite, Xmatrix-Ultra & i6000 Diagnostics), refer to the factory protocols provided with the instrument.

Detection System	Two-Step HRP Kit	One-Step HRP Kit	Link and Label Kit
Manual	QD440-XAKE (1000 Test)	QD630-XAKE (1000 Test)	QP300-XAKE (1000 Test)
	QD430-XAKE (1000 Test)		
	QD420-YIKE (500 Test)	QD620-XAKE (500 Test)	QP900-9LE (500 Test)
	QD400-60KE (60 Test)		
Xmatrix - Automation	QD550-YCDE (200 Test)	QD610-YADE (200 Test)	N/A
i6000 - Automation	QD410-YAXE (200 Test)	QD610-YAXE (200 Test)	N/A
For more information, visit <a href="http://www.biogenex.com">www.biogenex.com</a> .			

### Precautions

This product contains sodium azide at concentrations of less than 0.1%. Sodium azide is not classified as a hazardous chemical at the product concentrations, but proper handling protocols should be observed. For more information, a Safety Data Sheet (SDS) for sodium azide is available upon request. Dispose of unused reagents according to Local, State and Federal Regulations. Wear suitable Personal Protective Equipment, do not pipette reagents by mouth, and avoid contact of reagents and specimens with skin and mucous membranes. If reagents or specimens come in contact with sensitive area, wash with copious amounts of water.

### Quality Control

Refer to BioGenex detection system documents for guidance on general quality control procedures.

### Troubleshooting

Refer to the troubleshooting section in the documentation for BioGenex Detection Systems (or equivalent detection systems) for remedial actions on detection system related issues, or contact BioGenex Technical Support Department at 1-800-421-4149 or [support@biogenex.com](mailto:support@biogenex.com) or your local distributor to report unusual staining.

### Expected Results

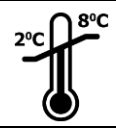





This antibody stains nucleus and cytoplasm in positive cells in formalin-fixed, paraffin embedded tissue sections. An example image of a tissue section stained with this antibody can be found on the product page on the BioGenex website. Interpretation of the staining result is solely the responsibility of the user. Experimental results should be confirmed by a medically-established diagnostic product or procedure.

### Limitations of the Procedure

Improper tissue handling and processing prior to immunostaining can lead to inconsistent results. Variations in embedding and fixation or the nature of the tissue may lead to variations in results. Endogenous peroxidase activity or pseudo peroxidase activity in erythrocytes and tissue biotin may result in non-specific staining based on the detection system employed. Tissues containing Hepatitis B Surface Antigen (HBsAg) may give false positive with horseradish peroxidase systems. Improper counterstaining and mounting may compromise the interpretation of results.

### Bibliography

- Perren A, et al. "Immunohistochemical evidence of loss of PTEN expression in primary ductal adenocarcinomas of the breast". Am J Pathol 99;155:1253-60.
- McMenamin ME, et al: "Loss of PTEN expression in paraffin-embedded primary prostate cancer correlates with high Gleason score and advanced stage". Cancer Res 1999;59:4291-6.
- Al-Khouri AM et al:" Cooperative phosphorylation of the tumor suppressor phosphatase and tensin homologue (PTEN) by casein kinases and glycogen synthase kinase 3beta". (2005) J Biol Chem 280, 35195–202.
- Zhang XC, et al:" Functional analysis of the protein phosphatase activity of PTEN" (2012) Biochem J 444, 457–64.

	Temperature Limitation	<b>IVD</b>	In Vitro Diagnostic Medical Device
	Use By Date	<b>LOT</b>	Batch Code
	Non-Sterile		Consult Instructions for Use
	Representative in the European Community		Manufacturer

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