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Anti-CD3 epsilon [EP449E]

AN477-5M
AN477-10M
NU477-UC

Doc. No. 932-477N-EN Rev. C
Release Date: 07-October, 2011. 932-Format-IVDE-CE-EN-0808

Immunogen	Clone	Species	Ig Class	Protein Conc
A synthetic peptide corresponding to residues in cytoplasmic domain of human CD3 epsilon. The antibody does not cross react with other subunits of CD3	EP449E	Rabbit	IgG	10-15mg/ml*

*Lot specific Ig concentration available upon request

Catalog No.	Description
AN477-5M	6 ml of Ready-to-Use Antibody for Use with BioGenex Super Sensitive Detection Systems
AN477-10M	10 ml of Ready-to-Use Antibody for Use with BioGenex Super Sensitive Detection Systems and BioGenex Automated Staining Systems
NU477-UC	1 ml of Concentrated Antibody for Use with BioGenex Super Sensitive Detection Systems or Other Equivalent Detection Systems

Intended Use
This antibody is currently available for in vitro diagnostic use. This antibody is designed for the specific localization of CD3 epsilon in formalin-fixed, paraffin-embedded tissue sections.

Summary and Explanation
CD3 (Cluster of Differentiation 3) is a complex of proteins that associates directly with the T cell antigen receptor (TCR) (1). Antigen binding to the TCR leads to IL-2 secretion via activation of a tyrosine phosphorylation pathway and a phospholipase C (PLC) pathway, in turn activating protein kinase C (1,2). CD3 is composed of five invariant polypeptide chains that associate to form three dimers. The five invariant chains of CD3 are labelled gamma, delta, epsilon, zeta and eta. The gamma, epsilon and delta chains each contain a single copy of a conserved immunoreceptor tyrosine-based activation motif(ITAM). Phosphorylated ITAMS act as docking sites for protein kinases such as ZAP-70 and Syk (3).

Principles of the Procedure
The demonstration of antigens by immunohistochemistry (IHC) is a two-step process involving first, the binding of a primary antibody to the antigen of interest, and second, the detection of bound antibody by a chromogen. The primary antibody may be used in IHC using manual techniques or using BioGenex Automated Staining System. BioGenex offers a variety of Super Sensitive detection systems including Link-Label and Polymer-based technologies to detect the chromogenic signal from the stained tissues and cells.

Reagents Provided
Rabbit Monoclonal Antibody to CD3 epsilon Purified Rabbit ascites diluted in PBS, pH 7.6, 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. Further dilution may result in loss of sensitivity. The user must validate any such change.

BioGenex Concentrated antibodies must be diluted in accordance with the staining procedure when used with the recommended BioGenex Detection System. Use of any detection methods other than the recommended systems and protocols require validation by the user. Antibody dilutions should be appropriately adjusted and verified according to the detection system used.

Materials Required But Not Provided
All the reagents and materials required for IHC are not provided. Pre-treatment reagents, Super Sensitive detection systems, control slides, control reagents and other ancillary reagents are available from BioGenex. Please refer to the product insert(s) of the BioGenex Super Sensitive IHC detection systems for detailed protocols and instructions.

The IHC procedure may need other lab equipment that are not provided including oven or incubator (capable of maintaining 56-60^{o}C), BioGenex Automated Staining System, Humidity Chamber, Microwave oven, Staining Jars or baths, Timer (capable of 3-20 minute intervals), Wash Bottles, Absorbent Wipes, Microscope slides (pre-treated with poly-L-Lysine), Coverslips, Lens paper and Light microscope with magnification of 200X.

Storage and Handling
Antibodies should be stored at 2-8°C without further dilution. Fresh dilutions, if required, should be made prior to use and are stable for up to one day at room temperature (20-26°C). Unused portions of antibody preparations should be discarded after one day.

This antibody is suitable for use until expiry date when stored at 2-8°C. Do not use product after the expiration date printed on vial. If reagents are stored under a condition other than those specified in the package insert, they must be verified by the user (U.S. Congress, 1992).

The presence of precipitate or an unusual odor indicates that the antibody is deteriorating and should not be used.

Positive and negative controls should be run simultaneously with all patient specimens. If unexpected staining is observed which cannot be explained by variations in laboratory procedures and a problem with the antibody is suspected, contact BioGenex Technical Support at 925-275-0550 or your local distributor.

Specimen Collection and Preparation
Tissues fixed in 10% (v/v) formalin are suitable for use prior to paraffin embedding. Consult references (Kiernan, 1981: Sheehan & Hrapchak, 1980) for further details on specimen preparation.

The user is advised to validate the use of the products with their tissue specimens prepared and handled in accordance with their laboratory practices.

Treatment of Tissues Prior to Staining
Pretreatment of tissues, if any, should be done as suggested in the staining procedure section.

Precautions

This antibody contains no hazardous material at a reportable concentration according to U.S. 29 CFR 1910.1200, OSHA Hazard Communication Standard and EC Directive 91/155/EC. However, 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. However, toxicity information regarding sodium azide at product concentrations has not been thoroughly investigated. Sodium azide may react with lead or copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing (Center for Disease Control, 1976, National Institute for Occupational Safety and Health, 1976). For more information, a Material Safety Data Sheet for sodium azide in pure form is available upon request. 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. Minimize microbial contamination of reagents or increase in nonspecific staining may occur.

Refer to appropriate product inserts for instructions of use and safety information on detection reagents and other materials, which may be used with the antibody.

Staining Procedure
Refer to the following table for conditions specifically recommended for this antibody. Refer to the detection system package insert for guidance on specific staining protocols or other requirements.

Parameter	BioGenex Recommendations
Control Tissue	Spleen tissue as available from BioGenex FG-477N
Tissue Type	FFPE
Concentrated Dilution	10-30 in HK156-5K
Pretreatment	EZ-AR™ 1, Use Power Block
Incubation Time & Temperature	60 min @ RT
Detection System	POLYMER-HRP

Quality Control
The recommended positive control tissue for this antibody is Spleen tissue. The user is advised to use the control tissues available from BioGenex for your Quality Control purpose. Refer to the appropriate detection system package inserts for guidance on general quality control procedures.

Troubleshooting
Refer to the troubleshooting section in the package inserts of BioGenex Super Sensitive Detection Systems (or other equivalent detection systems) for remedial actions on detection system related issues, or contact BioGenex Technical Support Department at 800-421-4149 or your local distributor to report unusual staining.

Expected Results
This antibody stains Membrane in positive cells in formalin-fixed, paraffin-embedded tissue sections. Interpretation of the staining result is solely the responsibility of the user. Any experimental result should be confirmed by a medically established diagnostic product or procedure.

Limitations of the Procedure
Immunohistochemistry is a complex technique involving both histological and immunological detection methods. Tissue processing and handling prior to immunostaining can also cause inconsistent results. Variations in fixation and embedding or the inherent nature of the tissue may cause variations in results (Nadji and Morales, 1983). Endogenous peroxidase activity or pseudoperoxidase activity in erythrocytes and endogenous biotin may cause non-specific staining depending on detection system used. Tissues containing Hepatitis B Surface Antigen (HBsAg) may give false positive with horseradish peroxidase systems (Omata et al, 1980). Improper counterstaining and mounting may compromise the interpretation of results.

Performance Characteristics
BioGenex has conducted studies to evaluate the performance of the antibody with BioGenex detection systems and accessories. The antibodies have been found to be sensitive and show specific binding to the antigen of interest with minimal to no binding to non-specific tissues or cells. BioGenex antibodies have shown reproducible and consistent results when used within a single run, between runs, between lots and wherever applicable between manual and automated runs. The products have been determined to be stable for the periods specified on the labels either by standard real time or accelerated methods. BioGenex ensures product quality through 100% quality control for all products released and through surveillance programs.

Bibliography

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This clone was produced using Epitomics, Inc. Rabbit Monoclonal technology under patent No. 5,675,063.