

## TIA-1

Concentrated and Prediluted Monoclonal Antibody  
902-130-121421

**BIOCARE**  
M E D I C A L

Available Product Formats				
Format	Catalog Number	Description	Dilution	Diluent
Concentrate	ACR 130 A, B, C	0.1, 0.5, 1.0 mL	1:100	Da Vinci Green
Predilute	APR 130 AA	6.0 mL	Ready-to-use	N/A
Q Series— For Leica BOND-III	ALR 130 G7	7.0 mL	Ready-to-use	N/A

### Intended Use:

For Research Use Only. Not for use in diagnostic procedures.

### Summary and Explanation:

TIA-1 (T-cell intracytoplasmic antigen) monoclonal antibody reacts with a 15 kDa isoform of a cytoplasmic granule-associated protein that is expressed in cytolytic lymphocytes (1,2). Expression of the TIA-1 is characteristic of cytotoxic cells regardless of their activation status (3). A study has shown that 60-70% of anaplastic large cell lymphoma (ALCL) express TIA-1, indicative of a cytotoxic phenotype (4). The authors concluded that TIA-1 positive anaplastic large-cell lymphomas are cytotoxic T or NK-cell neoplasms. All B-cell lymphomas, Hodgkin's and lymphoblastic leukemia's were negative for TIA-1. More recently, TIA-1 was shown to have tumor-promoting activity in esophageal squamous cell carcinoma (ESCC) (5).

### Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a one-step or two-step detection procedure can be applied. A one-step procedure will feature an enzyme labeled polymer that binds the primary antibody. A two-step procedure will feature a linker antibody added to bind to the primary antibody. An enzyme-labeled polymer is then added to bind the linker antibody. These detections of the bound antibodies are evidenced by a colorimetric reaction.

**Source:** Mouse monoclonal

**Species Reactivity:** Human; others not tested

**Clone:** TIA-1

**Isotype:** IgG1

**Protein Concentration:** Call for lot specific Ig concentration.

**Epitope/Antigen:** TIA-1 (T-cell intracytoplasmic antigen)

**Cellular Localization:** Cytoplasmic (granular)

**Positive Tissue Control:** Anaplastic large cell lymphoma or tonsil

### Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative

### Storage and Stability:

Store at 2°C to 8°C. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

### Staining Protocol Recommendations (intelliPATH FLX® and manual use):

**Peroxide Block:** Block for 5 minutes with Peroxidized 1.

**Pretreatment:** Perform heat retrieval using Diva or Reveal Decloaker. Refer to the Diva or Reveal Decloaker product data sheet for specific instructions.

**Digestion Method (Optional):** After pretreatment, digest with Pepsin enzyme for 30-60 seconds at RT.

**Protein Block (Optional):** Incubate for 5-10 minutes at RT with Background Punisher.

**Primary Antibody:** Incubate for 30 minutes at RT.

**Probe:** Incubate for 10 minutes at RT with a secondary probe.

**Polymer:** Incubate for 10-20 minutes at RT with a tertiary polymer.

**Chromogen:** Incubate for 5 minutes at RT with Biocare's DAB – OR – Incubate for 5-7 minutes at RT with Warp Red.

### Staining Protocol Recommendations (intelliPATH FLX and manual use) Cont'd:

#### Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

#### Technical Note:

This antibody, for intelliPATH FLX and manual use, has been standardized with MACH 4 detection system. Use TBS for washing steps.

### Staining Protocol Recommendations (Q Series – For Leica BOND-III):

ALR130 is intended for use with the Leica BOND-III. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:

**Protocol Name:** IHC Protocol F

**Detection:** Bond Polymer Refine

**HIER:** 20 min with ER2

**Peroxide Block:** 5 min

**Marker (Primary Antibody):** 15 min

**Post Primary:** 8 min

**Polymer:** 8 min

**Mixed DAB Refine:** 10 min

**Hematoxylin:** 5 min

### Limitations:

This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

### Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN<sub>3</sub>) used as a preservative is toxic if ingested. Sodium azide may react with lead and 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 of Occupational Safety and Health, 1976) (6)

2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. (7)

3. Microbial contamination of reagents may result in an increase in nonspecific staining.

4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.

5. Do not use reagent after the expiration date printed on the vial.

6. The SDS is available upon request and is located at <http://biocare.net>.

### Technical Support:

Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.



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### References:

1. Anderson P, *et al.* A monoclonal antibody reactive with a 15-kDa cytoplasmic granule-associated protein defines a subpopulation of CD8+ T lymphocytes. *J Immunol.* 1990 Jan 15;144(2):574-82.
2. Tian Q, *et al.* A polyadenylate binding protein localized to the granules of cytolytic lymphocytes induces DNA fragmentation in target cells. *Cell.* 1991 Nov 1;67(3):629-39.
3. Kanavaros P, *et al.* Cytotoxic protein expression in non-Hodgkin's lymphomas and Hodgkin's disease. *Anticancer Res* 1999 MarApr;19(2A):1209-16.
4. Dukers DF, *et al.* A cytotoxic phenotype does not predict clinical outcome in anaplastic large cell lymphomas. *J Clin Pathol.* 1999 Feb;52(2):129-36.
5. Hamada J, *et al.* Tumor-promoting function and prognostic significance of the RNA-binding protein T-cell intracellular antigen-1 in esophageal squamous cell carcinoma. *Oncotarget.* 2016 Mar 29;7(13):17111-28.
6. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
7. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

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