IOTest Anti-TIA-1-PE

PN IM3293 – 2 mL – Liquid – 20 µL/test – Clone 2G9 (2G9A10F5 or TIA-1)

Analyte Specific Reagent.
Analytical and performance characteristics are not established.

SPECIFICITY

Originally, the 2G9 monoclonal antibody (mAb) was described as identifying a 15 kDa protein found in the cytoplasmic granules of cytotoxic T cells that might be part of a larger 40 kDa molecule, ubiquitously expressed, named p40-TIA-1 and often referred to as TIA-1 in the literature (1, 2). Now, however, there is evidence that the 2G9 mAb identifies a 17 kDa cytoplasmic granule membrane protein named GMP-17 that has no similarity with p40-TIA-1 (3).
The GMP-17 antigen is a 165 amino acid protein with 4 transmembrane domains; but it is not a typical member of the four-transmembrane superfamily. It is identical with previously identified cytotoxic granule proteins called NKG7 and GIG-1 – for G-CSF induced gene protein 1 –, isolated from NK cells and granulocyte-colony-stimulating-factor-treated mononuclear cells, respectively (4, 5).
The GMP-17 protein is also found in the granules of $CD14^+$ monocytes and neutrophils (3, 6). Conversely, GMP-17 is not expressed in B lymphocytes or B-cell lines.
In humans, *NKG7*, the GMP-17 gene, is localized on chromosome 19q13-33 (4).
As the target cell-induced NK cell degranulation results in translocation of GMP-17 from granules to the plasma membrane, a possible role for GMP-17 in the formation of junctions between effector cells and target cells has been suggested. Furthermore, sequence homology with calcium channel proteins has suggested that it may regulate ion channels required for cytotoxic effector functions (3).
The 2G9 mAb was evaluated during the 5^{th} HLDA Workshop on Human Leucocyte Differentiation Antigens, in the section of monoclonal antibodies reactive with intracellular antigens (7).

REAGENT

IOTest Anti-TIA-1-PE Conjugated antibody
PN IM3293 - 2 mL - Liquid - 20 µL/test

Clone	2G9 (2G9A10F5 or TIA-1)
Isotype	IgG1 kappa, Mouse
Immunogen	Digitonin-permeabilized human peripheral blood T lymphocytes
Hybridoma	NS1 x balb/c
Source	Ascites fluid or supernatant of in vitro cultured hybridoma cells.
Purification	Affinity chromatography
Conjugation	R Phycoerythrin (PE)
Molar Ratio	PE / Ig : 0.5 - 1.5
Fluorescence	Excites at 488 nm Emits at 575 nm

REAGENT CONTENTS

This antibody is provided in phosphate-buffered saline, containing 0.1% sodium azide and 2 mg/mL bovine serum albumin.

STATEMENTS OF WARNING

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Specimens, samples and all material coming in contact with them should be considered potentially infectious and disposed of with proper precautions.
3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
4. Do not use antibody beyond the expiration date on the label.
5. Do not expose reagents to strong light during storage or incubation.
6. Avoid microbial contamination of reagents or incorrect results might occur.
7. Use good laboratory practices when handling this reagent.

STORAGE AND HANDLING CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze.
No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

SELECTED RESEARCH REFERENCES

1. Anderson, P., Nagler-Anderson, C., Obrien, C., Levine, H., Watkins, S., Slayter, H.S., Blue, M-L., Schlossman, S.F., "A monoclonal antibody reactive with a 17 kDa cytoplasmic granule associated protein defines a subpopulation of CD8+ T lymphocytes", 1990, J. Immunol., 2, 144, 574.
2. Tian, Q., Streuli, M., Saito, H., Schlossman, S.F., Anderson, P., "A polydenylate binding protein localized to the granules of cytolytic lymphocytes induces DNA fragmentation in target cells", 1991, Cell, 67, 629-639.
3. Medley, Q.G., Kedersha, N., O'Brien, S., Tian Q., Schlossman, S.F., Streuli, M., Anderson, P., "Characterization of GMP-17, a granule membrane protein that moves to the plasma membrane of natural killer cells following target cell recognition", 1996, Proc. Natl. Acad. Sci. U S A, 93, 2, 685-9.
4. Turman, M.A., Yabe, T., McSherry, C., Bach, F.H., Houchins, J.P., "Characterization of a novel gene (NKG7) on human chromosome 19 that is expressed in natural killer cells and T cells", 1993, Hum. Immunol., 36, 1, 34-40.
5. Shimane, M., Tani, K., Maruyama, K., Takahashi, S., Ozawa, K., Asano, S., "Molecular cloning and characterization of G-CSF induced gene cDNA", 1994, Biochem Biophys Res Commun., 199, 1, 26-32.
6. Shimane, M., Tani, K., Hibino, H., Setoyama, M., Takahashi, S., Tojo, A., Yodoi, J., Asan, S., "Significant expression of G-CSF-induced gene-1 (GIG-1) protein in myeloid cells and NK cells", 1999, J Leukoc Biol., 65, 1, 109-16.
7. Anderson, P., "mAb reactive with lymphocyte-restricted intracellular antigens", 1995, Leucocyte Typing V, White Cell Differentiation Antigens. Schlossman, S.F., et al., Eds., Oxford University Press, 325-327.

TRADEMARKS

MANUFACTURED BY :

IMMUNOTECH SAS
a Beckman Coulter Company
130, avenue de Lattre de Tassigny
B.P. 177 - 13276 Marseille Cedex 9
France

For additional information in the USA, call 800-526-7694.
Outside the USA, contact your local Beckman Coulter representative.

www.beckmancoulter.com

Printed in France.
Made in France.

IM3293 2011-02-07
IG-720–ASR_AH