IOTest® TCR Pan γ/δ-FITC

PN IM1571U – 2 mL Liquid – 20 µL / test* – Clone IMMU510

Analyte Specific Reagent.

Analytical and performance characteristics are not established.

SPECIFICITY

The TCR is a molecular complexe wich comprises two units: a recognition unit, composed of either alpha-beta or gamma-delta heterodimer, which are present on the cell surface in a mutually exclusive manner, and, a transducing unit, the CD3 complex, common to alpha-beta and gamma-delta heterodimers, which triggers the T cell when the recognition unit is occupied by the antigen.

The recognition unit recognizes foreign antigens and the diversity necessary for this function of recognition is generated by somatic recombination the TCR genes (1 - 3). There are four TCR gene loci (alpha, beta, gamma and delta). Each of them is composed of several V (variable) segments, coding for about 90 amino acids, very short D (diversity) segments (α and delta loci only), and short J (joining) segments (about 15 amino acids), and one or two C (constant) segments (4, 5).

Most of T cells express the alpha/beta TCR (T cell receptor) protein and a small population of T cells expresses the gamma/delta TCR, which usually has a double negative (CD4/CD8) phenotype. Gamma/delta T-cells are normally the first line of defence at epidermal and epithelial surfaces and they represent 10-12% of lymphocytes in the spleen (6).

The IMMU510 monoclonal antibody recognizes all the gamma/delta T cells regardless the variable genes or junction regions they express as assessed by flow immunofluorescence studies on polyclonal gamma/delta T-cell lines as well as gamma/delta T-cell clones (7 - 11).

REAGENT

IOTest TCR Pan γ/δ-FITC Conjugated Antibody
PN IM1571U – 2 mL Liquid – 20 µL / test*.

Clone	IMMU510
Isotype	IgG1, mouse
Immunogen	Soluble gamma/delta T-cell receptor
Hybridoma	X63-Ag8.653 x Balb/cJ
Source	Ascites fluid
Purification	Ion exchange or affinity chromatography
Conjugation	FITC (Fluorescein isothiocyanate) is conjugated at 3 – 10 moles of FITC per mole of Ig.
Fluorescence	FITC (Green) Excites at 468 – 509 nm Emits at 504 – 541 nm

REAGENT CONTENTS

This reagent is provided in phosphate-buffered saline, with 0.1% sodium azide (NaN_3) as preservative, and 2.0 mg / mL bovine serum albumin (BSA).

STATEMENT OF WARNINGS

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. Do not use antibody beyond the expiration date on the label.
3. Samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
4. Never pipet by mouth and avoid contact of samples with skin and mucous membranes
5. Minimize exposure of reagent to 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 CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. Minimize exposure to light.

EVIDENCE OF DETERIORATION

Any change in the physical appearance of this FITC-labeled reagent (clear, colorless to yellowish-green liquid) or any major variation in values obtained for control samples may indicate deterioration and the reagent should not be used.

REAGENT PREPARATION

No preparation 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. Allison, J.P., "Structure, function, and serology of the T-cell antigen receptor complex", 1987, Annu. Rev. Immunol., 5, 503-539.
2. Clevers, H., Alarcon, B., Wileman, T., Terhorst, C., "The T cell receptor / CD3 complex: A dynamic protein ensemble", 1988, Annu. Rev. Immunol., 6, 629-662.
3. Porcelli, S., Brenner, M.B., Band, H., "Biology of the human γδ T-cell receptor", 1991, Immunol. Rev., 120, 137-183.
4. Wei, S., Charmley, P., Robinson, M.A., Concannon, P., "The extent of the human germline T-cell receptor Vβ gene segment repertoire", 1994, Immunogenetics, 40, 27-36.
5. Arden, B., Clark, S.P., Mak, T.W., "Human T cell receptor variable gene segment families", 1995, Immunogenetics, 42, 455-500.
6. Falini, B., Flenghi, L., Pileri, S., Pelicci, P., Fagioli, M., Martelli, M.F., Moretta, L., Ciccone, E., "Distribution of T cells bearing different forms of the T cell receptor γδ in normal and pathological human tissues" 1989, J Immunol., 143, 2480–2488.
7. Davodeau, F., Houde, I., Boulot, G., Romagné, F., Necker, A., Canavo, N., Peyrat, M.A., Hallet, M.M., Vie, H., Jacques, Y., Mariuzza, R., Bonneville, M., "Secretion of disulfide linked human TCR γ δ heterodimers", 1993, J. Biol. Chem., 268, 15455-15460.
8. Davodeau, F., Peyrat, M.A., Houde, I., Hallet, M.M., De Libero, G., Vié, H., Bonneville, M., "Surface Expression ot two distinct functional antigen receptors on human γ-δ T cells", 1993, Science, 260, 1800-1802.
9. Davodeau, F., Peyrat, M.A., Romagné, F., Necker, A., Hallet, M.A., Vié, H., Bonneville, M., "Dual T cell receptor β chain expression on human T lymphocytes", 1995, J. Exp. Med., 181, 1391-1398.
10. Peyrat, M.A., Davodeau, F., Houde, I., Romagné, F., Necker, A., Leget, C., Cervoni, J.P., Cerf-Bensoussan, N., Vié, H., Bonneville, M., Hallet, M.M., "Repertoire analysis of human PBL using a human V δ 3 region specific mAb. Characterization of dual TCR δ chain expressors and α β T cells expressing V δ 3/J α/C α-encoded TCR chains",1995, J. Immunol., 155, 3060-3067.
11. Thibault, G., Bardos, P., "Compared TCR and CD3ε expression on αβ and γδ cells. Evidence for the association of two TCR heterodimers with three CD3ε chains in the TCR/CD3 complex", 1995, J. Immunol.,154, 3814-3820.

PRODUCT AVAILABILITY

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

(*): 20 µL is the quantity of product sufficient to stain 5×10^5 cells in a standard immunofluorescence assay

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BECKMAN COULTER

Manufactured by:
Immunotech SAS, a Beckman Coulter Company
130, avenue de Lattre de Tassigny, B.P. 177
13276 Marseille Cedex 9, France

(*): 20 µL is the quantity of product sufficient to stain 5×10^5 cells in a standard immunofluorescence assay