

# IOTest<sup>®</sup> Anti-TCR V $\beta$ 20-FITC

PN IM1562 – 50 tests – 20  $\mu$ L / test – Clone ELL1.4

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

## SPECIFICITY

Human variable  $\beta$ 20 chain of the T-cell receptor, called TCRBV20S1 according to the nomenclature from Wei et al (1) is also referred to as TRBV30 (based on the IMGT gene nomenclature) (2, 3).

V $\beta$ 20 is a single membered subfamily represented by the sequence HUT 102 (4).

A polymorphism has been described for V $\beta$ 20 (4) which introduces a stop codon in the variable region of the gene. 11% of the population studied (4) were homozygous for this non-functional allele. In fact, ELL 1.4 has been found completely negative in 5 out of 44 normal blood samples, which confirms the published results that were obtained by sequence analysis and RNA studies (5).

This mAb stains around 2.46% of peripheral CD3 positive lymphocytes in normal blood.

The specificity of this antibody has been confirmed at the First Human TcR Monoclonal Antibody Workshop in San Francisco in 1995 (6).

## REAGENT

IOTest Anti-TCR V $\beta$ 20-FITC Conjugated Antibody  
PN IM1562 – 1 mL Liquid – 50 tests – 20  $\mu$ L / test.

<b>Clone</b>	ELL1.4
<b>Isotype</b>	IgG2a, mouse
<b>Immunogen</b>	Mouse T cell hybridoma transfected with human V $\beta$ 20 gene segment.
<b>Hybridoma Source</b>	NS1 x Biozzi spleen cells
<b>Purification</b>	Ascites fluid ion exchange chromatography
<b>Conjugation</b>	FITC (Fluorescein isothiocyanate) is conjugated at 3 – 10 moles of FITC per mole of Ig.
<b>Fluorescence</b>	FITC (Green) Excites at 468 – 509 nm Emits at 504 – 541 nm
<b>Buffer</b>	2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide.

## APPLICATION

Studies of TCR V $\beta$ 20 positive cells by flow cytometry.

## 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. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection 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 CONDITIONS AND STABILITY

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

## 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 reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

## PROCEDURE

This reagent is designed for flow cytometry. A wash is required to yield optimal results. Assay volume: 20  $\mu$ L per 5 x 10<sup>5</sup> cells in one test, or per 100  $\mu$ L whole blood. It is preferable to double stain the sample with another T-cell marker (CD3, CD4, CD8).

## SELECTED RESEARCH REFERENCES

1. Wei, S., Charmley, P., Robinson, M.A., Concannon, P., "The extent of the human

germline T-cell receptor V beta gene segment repertoire", 1994, Immunogenetics, 40, 27-36.

2. Lefranc, M.P., Giudicelli, V., Ginestoux, C., Bodmer, J., Muller, W., Bontrou, R., Lemaitre, M., Malik, A., Barbie, V., Chaume D., "IMGT, the international ImMunoGeneTics database", 1999, Nucleic Acids Res., 27, 209-212.
3. Lefranc, M.P., "IMGT, the international ImMunoGeneTics database", 2003, Nucleic Acids Res., 31, 307-310.
4. Leiden, J.M., Strominger, J.L., "Generation of diversity of the beta chain of the human T lymphocyte receptor for antigen", 1986, Proc. Natl. Acad. Sci. USA, 83, 4456-4460.
5. Charmley, P., Wang, K., Hood, L., Nickerson, D.A., "Identification and physical mapping of a polymorphic human TCR V beta gene with a frequent null allele", 1993, J. Exp. Med., 177, 135-143.
6. Posnett, D.N., Romagné, F., Necker, A., Kotzin, B.L., Sekaly, R.-P., "First Human TcR Monoclonal Antibody Workshop", 1996, The Immunologist, 4, 5-8.

## 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.

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