

# IOTest<sup>®</sup> CD34 Pool Kit

PN IM1459U – 100 tests – 20 µL/test – Clones QBEnd10 + Immu133 + Immu409

Analyte Specific Reagent.

Analytical and performance characteristics are not established.

## REAGENT COMPONENTS

**Contents:** One vial of CD34 Pool-PE  
One vial of Isotypic Control IgG(1+2a)-PE

CD34 Pool-PE	Antibody 1	Antibody 2	Antibody 3
<b>Specificity</b>	CD34	CD34	CD34
<b>Epitope Class</b>	II	I	I
<b>Clone</b>	QBEnd10	Immu133	Immu409
<b>Hybridoma</b>	NS0 x NZB	P3-X63-Ag.8.653 x Balb/c	P3-X63-Ag.8.653 x Balb/c
<b>Immunogen</b>	Endothelial Cell (HUVEC)	KG-1a and TF1 cells	KG-1a and TF1 cells
<b>Ig Chain</b>	IgG1	IgG1	IgG2a
<b>Species</b>	Mouse	Mouse	Mouse
<b>Source</b>	Ascites fluid	Ascites fluid	Ascites fluid
<b>Purification</b>	Protein A chromatography	Protein A chromatography	Ion exchange chromatography
<b>Fluorochrome</b>	PE (R-phycoerythrin)	PE (R-phycoerythrin)	PE (R-phycoerythrin)
<b>Excitation λ</b>	488 nm	488 nm	488 nm
<b>Max. Emission λ</b>	575 nm	575 nm	575 nm
<b>Buffer</b>	2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide		

Isotypic Control-PE	Antibody 1	Antibody 2
<b>Specificity</b>	NA	NA
<b>Clone</b>	679.1Mc7	7T4-1F5
<b>Hybridoma</b>	P3-X63-Ag.8.653 x Balb/c	NS1 x Balb/c
<b>Immunogen</b>	Non biological hapten	A totally unique clonotypic determinant present on the cell line used for immunization
<b>Ig Chain</b>	IgG1	IgG2a
<b>Species</b>	Mouse	Mouse
<b>Source</b>	Ascites fluid	Ascites fluid
<b>Purification</b>	Chromatography	Protein A chromatography
<b>Fluorochrome</b>	PE (R-phycoerythrin)	PE (R-phycoerythrin)
<b>Excitation λ</b>	488 nm	488 nm
<b>Max. Emission λ</b>	575 nm	575 nm
<b>Buffer</b>	2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide	

## SPECIFICITY

The CD34 glycoprotein is a transmembrane single chain molecule. Its molecular weight is about 110 kDa. The extracellular domain is heavily N- and O-glycosylated (1, 2) and the cytoplasmic sequence reveals two sites for activated protein kinase C phosphorylation and one site for tyrosine phosphorylation (1). This antigen is a very early marker in human hematopoietic progenitor cells (3, 4). CD34 is expressed on virtually all hematopoietic precursor cells, including the multipotent stem cells (5). However, its expression is not restricted to hematopoietic progenitors (6) and is constitutive on capillary endothelial cells (6, 7).

There are three classes of CD34 epitopes defined by differential sensitivity to enzymatic cleavage with glycoprotease from *Pasteurella haemolytica* and with neuraminidase (2). The QBEnd10 monoclonal antibody (mAb) recognizes specifically a class II epitope, whereas the Immu133 and Immu409 mAbs

recognize non-identical class I epitopes (8, 9).

The QBEnd10 mAb has been assigned to the CD34 cluster of differentiation at the 4th International Workshop on Human Leucocyte Differentiation Antigens in Vienna, Austria, in 1989 (WS Code: M607) (6). The Immu133 and Immu409 mAbs have been assigned to the CD34 cluster of differentiation at the 5th International Workshop on Human Leucocyte Differentiation Antigens in Boston, USA, in 1993 (WS Codes: MA2 and MA3 respectively) (8).

The CD34 Pool Kit includes two vials. The one labeled CD34 Pool-PE contains a mixture of QBEnd10, Immu133 and Immu409. The one labeled Isotypic Control IgG(1+2a)-PE is its matching negative control. As QBEnd10 and Immu133 are of the mouse IgG1 isotype and Immu409 of the IgG2a isotype, this control is a mixture of two R-phycoerythrin-conjugated irrelevant mouse monoclonal immunoglobulins of these isotypes. Each isotype concentration in the

control matches the total concentration of each isotype in the CD34 Pool.

## REAGENT

IOTest Conjugated Antibodies: CD34 Pool Kit PN IM1459U – 100 tests – 20 µL / test.

## 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.

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- Never pipet by mouth and avoid contact of samples with skin and mucous membranes
- Do not use antibody beyond the expiration date on the label.
- Do not expose reagents to strong light during storage or incubation.
- Avoid microbial contamination of reagents or incorrect results might occur.
- Use good laboratory practices when handling this reagent.

### STORAGE CONDITIONS AND STABILITY

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

### EVIDENCE OF DETERIORATION

Any change in the physical appearance of this PE-labeled reagent (clear, colorless to pink 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 IOTest conjugated antibodies reagent is used directly from the vial. Bring reagent to 18 – 25°C prior to use.

### SELECTED RESEARCH REFERENCES

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- R.G., Singer, J.W., Bernstein, I.D., "Human hematopoietic precursors in long-term culture, Single CD34+ cells that lack detectable T cell, B cells and myeloid cell antigens produce multiple colony-forming cells when cultured with marrow stromal cells", 1990, *J. Exp. Med.*, 172, 355-358.
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- Delia, D., Lampugnani, M.G., Resnati, M., Dejana, E., Ajello, A., Fontanella, E., Soligo, D., Pierotti, M.A., Greaves, M.F., "CD34 expression is regulated reciprocally with adhesion molecules in vascular endothelial cells in vitro", 1993, *Blood*, 4, 81, 1001-1008.
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### PRODUCT AVAILABILITY

IOTest CD34 Pool-PE Conjugated Antibody  
PN IM1459U – 100 tests – 20 µL/test  
PE is licensed under patent 4,520,110

For additional information in the USA, call 800-526-7694.

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