Technical Data Sheet

# PE Mouse anti-Human Pax-6

## Product Information

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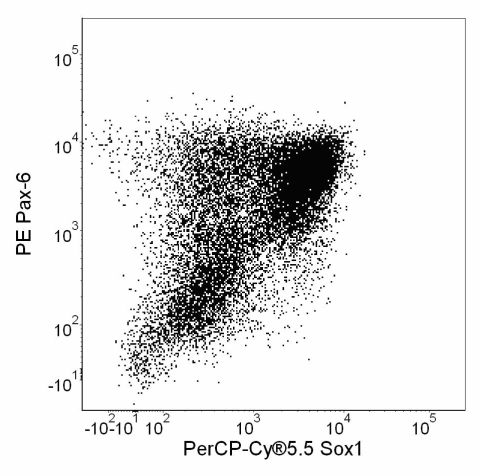
|---|---|
| **Material Number:** | **561552** |
| **Alternate Name:** | Oculorhombin, Aniridia type II protein, PAX6, AN2 |
| **Entrez Gene ID:** | 5080 |
| **Size:** | 50 tests |
| **Vol. per Test:** | 5 µl |
| **Clone:** | O18-1330 |
| **Immunogen:** | Human Pax-6 aa 406-422 Peptide |
| **Isotype:** | Mouse (BALB/c) IgG2a, κ |
| **Reactivity:** | QC Testing: Human |
| **Storage Buffer:** | Aqueous buffered solution containing BSA and ≤0.09% sodium azide. |

## Description

Pax-6 is a member of the paired box (pax) gene family whose protein products are transcription factors involved in development. Pax family members share a highly conserved DNA binding domain that contains six alpha helices (paired domain) and a homeo box domain. Pax-6 has important roles in the development of the eye, nose, central nervous system, and pancreas. Defects in Pax-6 are responsible for various eye malformations including aniridia and Peters anomaly.

The O18-1330 monoclonal antibody reacts with human Pax-6. Because the Pax-6 protein sequence is highly conserved among vertebrate species, cross-reactivity with other species is possible.




***Intracellular staining of Pax-6 in neural induction of human embryonic stem (ES) cells.*** *H9 human ES cells (WiCell, Madison, WI) were cultured in mTeSR® (Stem Cell Technologies) on plates coated with BD Matrigel™ hESC-qualified Matrix (Cat. No. 354277). Embryoid bodies (EB) were made and cultured in medium containing Knockout™ Serum Replacement (Life Technologies) without bFGF for 24 hours and then in medium containing 250 ng/ml human recombinant noggin (R&D Systems) and 10 µM SB 431542 (Tocris) for 4 more days. The EB were then plated on BD Matrigel-coated plates and grown in medium with ITS supplement (Sigma-Aldrich), noggin, and SB 431542. After growth for 7 days, the cells were collected, fixed with BD Cytofix™ Fixation Buffer (Cat. No. 554655), and permeabilized with BD Phosflow™ Perm Buffer III (Cat. No. 558050). The cells were then stained with PE Mouse anti-Human Pax-6 and PerCP-Cy5.5 Mouse anti-Human Sox1 (Cat. No. 561549). The plot was derived from gated events based on light scattering characteristics for the neural induction. Flow cytometry was performed on a BD LSR™ II flow cytometry system.*

## Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

## Application Notes

**Application**

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| Intracellular staining (flow cytometry) | Routinely Tested |

## Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|---|---|---|---|
| 558595 | PE Mouse IgG2a, κ Isotype Control | 50 tests | MOPC-173 |
| 558050 | Perm Buffer III | 125 ml | (none) |
| 354277 | BD Matrigel™ hESC-qualified Matrix, 5 ml vial | NA | (none) |
| 554656 | Stain Buffer (FBS) | 500 ml | (none) |
| 554655 | Fixation Buffer | 100 ml | (none) |

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| 877.232.8995 | 800.979.9408 | 32.53.720.550 | 0120.8555.90 | 65.6861.0633 | 55.11.5185.9995 |

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## Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

## References


Cerf ME. Transcription factors regulating beta-cell function. *Eur J Endocrinol.* 2006; 155(5):671-679. (Biology)

Chambers SM, Fasano CA, Papapetrou EP, Tomishima M, Sadelain M, Studer L. Highly efficient neural conversion of human ES and iPS cells by dual inhibition of SMAD signaling. *Nat Biotechnol.* 2009; 27(3):275-280. (Methodology)

Glaser T, Walton DS, Maas RL. Genomic structure, evolutionary conservation and aniridia mutations in the human PAX6 gene. *Nat Genet.* 1992; 2:232-239. (Biology)

Osakada F, Jin ZB, Hirami Y, Ikeda H, Danjyo T, Watanabe K, Sasai Y, Takahashi M. In vitro differentiation of retinal cells from human pluripotent stem cells by small-molecule induction. *J Cell Sci.* 2009; 122:3169-3179. (Methodology)



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