Technical Data Sheet

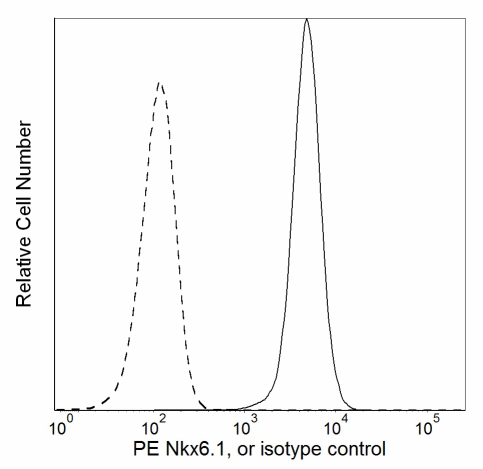
PE Mouse Anti-Nkx6.1

Product Information

Material Number:	**563023**
Alternate Name:	Nkx6.1, NKX6-1, NKX6A, Nkx6-1, Nkx6.1, Nkx6a
Size:	50 tests
Vol. per Test:	5 µl
Clone:	R11-560
Immunogen:	Human Nkx6.1 Recombinant Protein
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Mouse Tested in Development: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The R11-560 monoclonal antibody specifically binds to human and mouse homeobox protein Nkx6.1. The transcription factor Nkx6.1 plays a role in pancreatic islet beta cell development through the regulation of HNF1a and insulin genes. Nkx6.1 is considered to be a highly specific transcription factor marking pancreatic beta islet cells, where it is expressed in both developing and mature cells. In addition, Nkx6.1 functions as a transcriptional repressor induced by the Sonic Hedgehog (Shh) signaling pathway in fate determination of several neuronal cell types. During antibody development, the purified R11-560 monoclonal antibody was found to detect Nkx6.1 by western blot and indirect immunofluorescent staining followed by flow cytometric analysis or imaging analysis.



***Flow cytometric analysis of Nkx6.1 expression in mouse pancreatic tumor (insulinoma) cells**. Beta-T-C6 (ATCC, CRL-11506™) cells were fixed with BD Cytofix™ fixation buffer (Cat. No. 554655) and permeabilized with BD Phosflow™ Perm buffer III (Cat. No. 558050). The cells were stained with either PE Mouse IgG1, κ isotype control (dashed line, Cat. No. 554680) or PE Mouse Anti-Nkx6.1 monoclonal antibody (solid line) at matched concentrations. Flow cytometry was performed on a BD LSRFortessa™ 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

Intracellular staining (flow cytometry)	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)
554656	Stain Buffer (FBS)	500 ml	(none)
554680	PE Mouse IgG1, κ Isotype Control	0.1 mg	MOPC-21

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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. An isotype control should be used at the same concentration as the antibody of interest.
3. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
4. All other brands are trademarks of their respective owners.
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.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

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Inoue H, Rudnick A, German MS, Veile R, Donis-Keller H, Permutt MA. Isolation, characterization, and chromosomal mapping of the human Nkx6.1 gene (NKX6A), a new pancreatic islet homeobox gene. *Genomics.* 1997; 40:367-370. (Biology)

Nelson SB, Schaffer AE, Sander M. The transcription factors Nkx6.1 and Nkx6.2 possess equivalent activities in promoting beta-cell fate specification in Pdx1+ pancreatic progenitor cells. *Development.* 2007; 134(13):2491-2500. (Biology)

Pedersen IL, Klinck R, Hecksher-Sorensen J, et al. Generation and characterization of monoclonal antibodies against the transcription factor Nkx6.1. *J Histochem Cytochem.* 2006; 54(5):567-574. (Biology)

Prakash N, Puelles E, Freude K, et. al. Nkx6-1 controls the identity and fate of red nucleus and oculomotor neurons in the mouse midbrain. *Development.* 2009; 136(15):2545-2555. (Biology)

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