Technical Data Sheet

V450 Rat Anti-Mouse Flk-1

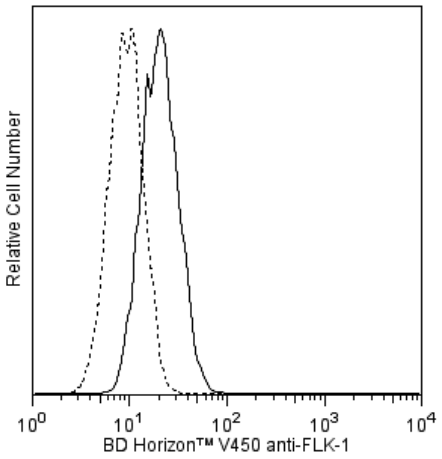
Product Information

Material Number:	**561256**
Alternate Name:	Fetal liver kinase 1; CD309; Kdr; VEGF receptor-2; VEGFR-2
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	Avas 12alpha1
Immunogen:	Mouse Flk-1 Recombinant Protein
Isotype:	Rat (WI) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing protein stabilizer and ≤0.09% sodium azide.

Description

The Avas 12α1 monoclonal antibody specifically binds to fetal liver kinase 1 (Flk-1), a receptor protein tyrosine kinase closely related to CD117 (c-kit) and CD140a (PDGF Receptor α chain) of the immunoglobulin superfamily. Flk-1, also known as VEGF Receptor-2 (VEGF-R2), is a receptor for vascular endothelial growth factor (VEGF). It is expressed, at the mRNA and protein levels, on distinct sets of mesoderm during gastrulation and on endothelial cells in embryonic and adult tissues. *In vivo* and *in vitro* studies indicate that Flk-1 is required for the embryonic development of vascular endothelial and hematopoietic cells.

The antibody is conjugated to BD Horizon™ V450, which has been developed for use in multicolor flow cytometry experiments and is available exclusively from BD Biosciences. It is excited by the Violet laser Ex max of 406 nm and has an Em Max at 450 nm. Conjugates with BD Horizon™ V450 can be used in place of Pacific Blue™ conjugates.



Flow cytometric analysis of FLK-1 expression on bEdn.3 cells. *bEdn.3 cells were stained either with a BD Horizon™ V450 Rat IgG2a, κ Isotype Control (Cat. No. 560377; dashed line histogram) or with the BD Horizon™ V450 Rat Anti-Mouse FLK-1 antibody (Cat. No. 561256; solid line histogram). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable bEND.3cells. Flow cytometry was performed using a BD™ LSR II Flow Cytometer System.*

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Preparation and Storage

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

The antibody was conjugated with BD Horizon™ V450 under optimum conditions, and unreacted BD Horizon™ V450 was removed.

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

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
560377	V450 Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
554656	Stain Buffer (FBS)	500 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
4. 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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
6. BD Horizon™ V450 has a maximum absorption of 406 nm and maximum emission of 450 nm. Before staining with this reagent, please confirm that your flow cytometer is capable of exciting the fluorochrome and discriminating the resulting fluorescence.
7. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.

References

Hanahan D. Signaling vascular morphogenesis and maintenance. *Science.* 1997; 277(5322):48-50. (Biology)

Kataoka H, Takakura N, Nishikawa S, et al. Expressions of PDGF receptor alpha, c-Kit and Flk1 genes clustering in mouse chromosome 5 define distinct subsets of nascent mesodermal cells. *Dev Growth Differ.* 1997; 39(6):729-740. (Immunogen)

Millauer B, Wizigmann-Voos S, Schnurch H, et al. High affinity VEGF binding and developmental expression suggest Flk-1 as a major regulator of vasculogenesis and angiogenesis. *Cell.* 1993; 72(6):835-846. (Biology)

Nishikawa SI, Nishikawa S, Hirashima M, Matsuyoshi N, Kodama H. Progressive lineage analysis by cell sorting and culture identifies FLK1+VE-cadherin+ cells at a diverging point of endothelial and hemopoietic lineages. *Development.* 1998; 125(9):1747-1757. (Biology)

Nishikawa SI, Nishikawa S, Kawamoto H, et al. In vitro generation of lymphohematopoietic cells from endothelial cells purified from murine embryos. *Immunity.* 1998; 8(6):761-769. (Biology)

Quinn TP, Peters KG, De Vries C, Ferrara N, Williams LT. Fetal liver kinase 1 is a receptor for vascular endothelial growth factor and is selectively expressed in vascular endothelium. *Proc Natl Acad Sci U S A.* 1993; 90(16):7533-7537. (Biology)

Shalaby F, Ho J, Stanford WL, et al. A requirement for Flk1 in primitive and definitive hematopoiesis and vasculogenesis. *Cell.* 1997; 89(6):981-990. (Biology)

Shalaby F, Rossant J, Yamaguchi TP, et al. Failure of blood-island formation and vasculogenesis in Flk-1-deficient mice. *Nature.* 1995; 376(6535):62-66. (Biology)