

## Technical Data Sheet

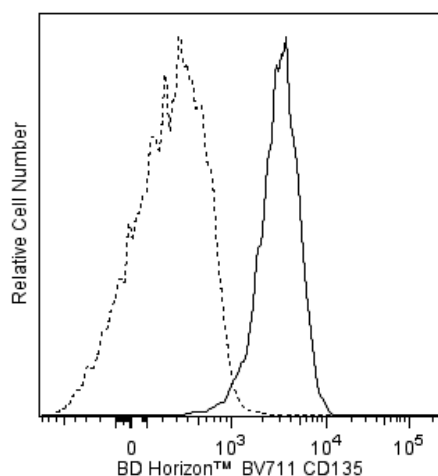
**BV711 Mouse Anti-Human CD135****Product Information**

<b>Material Number:</b>	<b>563908</b>
<b>Alternate Name:</b>	FLK2; FLT-3; Fms-related tyrosine kinase 3; STK-1
<b>Size:</b>	100 Tests
<b>Vol. per Test:</b>	5 µl
<b>Clone:</b>	4G8
<b>Immunogen:</b>	Human FLT3 Transfected Cell Line
<b>Isotype:</b>	Mouse (BALB/c) IgG1, κ
<b>Reactivity:</b>	QC Testing: Human
<b>Workshop:</b>	VI C-27
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

**Description**

The 4G8 monoclonal antibody specifically binds to CD135 which is also known as FMS-like tyrosine kinase 3 (FLT3), Fetal liver kinase 2 (FLK2) and Stem cell tyrosine kinase 1 (STK1). CD135 is a 155-160 kDa type I transmembrane glycoprotein. It belongs to subclass III of the receptor tyrosine kinase (RTK) family which includes receptors for M-CSF (CD115), SCF/c-Kit Ligand (CD117), and PDGF (CD140a and CD140b). CD135 is expressed on multipotential, myelomonocytic and primitive B-cell progenitors. The most primitive hematopoietic progenitor cells express low levels of CD135. CD135 plays the role of growth factor receptor for early hematopoietic progenitors. Reports from studies with knockout mice have shown that targeted CD135 disruption impaired the development of primitive progenitor cells of all hematopoietic lineages with significant impact on lymphopoietic precursors.

The antibody was conjugated to BD Horizon BV711 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 711-nm. BD Horizon BV711 can be excited by the violet laser and detected in a filter used to detect Cy™5.5 / Alexa Fluor® 700-like dyes (eg, 712/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there may be moderate spillover into the Alexa Fluor® 700 and PerCP-Cy5.5 detectors. However, the spillover can be corrected through compensation as with any other dye combination.



**Flow cytometric analysis of CD135 expression on human REH cells.** Cells from the human REH (Acute B cell leukemia, ATCC CRL-8283) cell line were stained with either BD Horizon™ BV711 Mouse IgG1, κ Isotype Control (Cat. No. 563044; dashed line histogram) or BD Horizon™ BV711 Mouse Anti-Human CD135 antibody (Cat. No. 563908; solid line histogram). The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of viable cells. Flow cytometric analysis was performed using a BD™ LSR II Flow Cytometer 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 BD Horizon™ BV711 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV711 were removed.

**Application Notes****Application**

Flow cytometry	Routinely Tested
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### Recommended Assay Procedure:

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794/566349) or the BD Horizon Brilliant Stain Buffer Plus (Cat. No. 566385).

### Suggested Companion Products

Catalog Number	Name	Size	Clone
563044	BV711 Mouse IgG1, k Isotype Control	50 µg	X40
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
563794	Brilliant Stain Buffer	100 Tests	(none)
566349	Brilliant Stain Buffer	1000 Tests	(none)
566385	Brilliant Stain Buffer Plus	1000 Tests	(none)

### Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^6$  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. 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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
7. BD Horizon Brilliant Violet 711 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
9. Cy is a trademark of GE Healthcare.
10. Please refer to [www.bdbiosciences.com/pharming/protocols](http://www.bdbiosciences.com/pharming/protocols) for technical protocols.

### References

- Bürhring H-J, Birnbaum D, Brasel KA, et al. CD135 (FLT3/FLK2/STK-1) Workshop Panel report. In: Kishimoto T. Tadimitsu Kishimoto .. et al., ed. *Leucocyte typing VI : white cell differentiation antigens : proceedings of the sixth international workshop and conference held in Kobe, Japan, 10-14 November 1996*. New York: Garland Pub.; 1997:875-879. (Clone-specific: Activation, Blocking, Flow cytometry, Functional assay, Immunoprecipitation)
- Rappold I, Bürhring H-J. CD135 Workshop: Functional aspects and reactivity of FLT3-specific antibodies. In: Kishimoto T. Tadimitsu Kishimoto .. et al., ed. *Leucocyte typing VI : white cell differentiation antigens : proceedings of the sixth international workshop and conference held in Kobe, Japan, 10-14 November 1996*. New York: Garland Pub.; 1997:879-881. (Clone-specific: Activation, Blocking, Flow cytometry, Functional assay)
- Lyman SD, James L, Johnson L. Cloning of the human homologue of the murine flt3 ligand: a growth factor for early hematopoietic progenitor cells. *Blood*. 1994; 83(10):2795-27801. (Biology)
- Mackarehtschian K, Hardin JD, Moore KA, Boast S, Goff SP, Lemischka IR. Targeted disruption of the flk2/flt3 gene leads to deficiencies in primitive hematopoietic progenitors. *Immunity*. 1995; 3(1):147-161. (Biology)
- Rappold I, Ziegler BL, Kohler I, et al. Functional and phenotypic characterization of cord blood and bone marrow subsets expressing FLT3 (CD135) receptor tyrosine kinase. *Blood*. 1997; 90(1):111-125. (Immunogen: ELISA, Flow cytometry, Immunoprecipitation)
- Rosnet O, Schiff C, Pébusque MJ. Human FLT3/FLK2 gene: cDNA cloning and expression in hematopoietic cells. *Blood*. 1993; 82(4):1110-1119. (Biology)
- Rusten LS, Lyman SD, Veiby OP, Jacobsen SE. The FLT3 ligand is a direct and potent stimulator of the growth of primitive and committed human CD34+ bone marrow progenitor cells in vitro. *Blood*. 1996; 87(4):1317-1325. (Biology)