

## Technical Data Sheet

## Biotin Rat Anti-Mouse Syndecan-4

## Product Information

<b>Material Number:</b>	<b>550351</b>
<b>Size:</b>	0.1 mg
<b>Concentration:</b>	0.5 mg/ml
<b>Clone:</b>	KY/8.2
<b>Immunogen:</b>	BCB10 mouse pre-B cell line
<b>Isotype:</b>	Rat (WI) IgG2a, $\kappa$
<b>Reactivity:</b>	QC Testing: Mouse
<b>Storage Buffer:</b>	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

## Description

The KY/8.2 mAb reacts with mouse syndecan-4, a cell-surface heparan sulfate proteoglycan. Although the ligand(s) for this molecule is unknown, syndecans are known to interact with the heparin-binding domain of growth factors, chemokines, and extracellular matrix components. Accordingly, heparin inhibits the binding of syndecan-4 to the pre-B cell line BC7.12. Syndecan-4 is localized to focal adhesions and binds protein-kinase C $\alpha$ . Thus, it is involved in cytoskeletal organization and signaling. Syndecan-4 is expressed on stromal cells and B-lymphocyte precursors in bone marrow, in addition to most splenic B cells and a small population of T lymphocytes. It is highly expressed on activated B lymphocytes, but is downregulated in isotype-switched memory B cells. The ectodomain of syndecan-4 is shed from cell surfaces constitutively and in response to specific physiological signals, and the resulting soluble fragments are functional. Immobilized KY/8.2 mAb induced the formation of dendritic processes on syndecan-4-transfected cells and on anti-CD40-activated splenic B cells. Other methods of activating B cells have not produced the same effect. This antibody recognizes an epitope in the N-terminus of syndecan-4, regardless of post-translational modifications.

## Preparation and Storage

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

The antibody was conjugated with biotin under optimum conditions, and unreacted biotin was removed.

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

## Application Notes

## Application

Flow cytometry	Routinely Tested
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## Recommended Assay Procedure:

We recommend the use of Mouse Fc Block™ (anti-mouse CD16/CD32, mAb 2.4G2, Cat. No. 553141/553142) to reduce non-specific staining.

## Suggested Companion Products

Catalog Number	Name	Size	Clone
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
553928	Biotin Rat IgG2a $\kappa$ Isotype Control	0.25 mg	R35-95
554060	FITC Streptavidin	0.5 mg	(none)

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.
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.

## References

Rapraeger AC, Ott VL. Molecular interactions of the syndecan core proteins. *Curr Opin Cell Biol.* 1998; 10(5):620-628.(Biology)  
 Woods A, Couchman JR. Syndecan-4 and focal adhesion function. *Curr Opin Cell Biol.* 2001; 13(5):578-583.(Biology)  
 Yamashita Y, Oritani K, Miyoshi EK, Wall R, Bernfield M, Kincade PW. Syndecan-4 is expressed by B lineage lymphocytes and can transmit a signal for formation of dendritic processes. *J Immunol.* 1999; 162(10):5940-5948.(Immunogen)

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