BB515 Mouse Anti-Human CD98

Product Information

Material Number: 565103
Alternate Name: SLC3A2; CD98HC; 4F2; 4F2hc; MDU1; NACAE; 4T2HC
Size: 50 Tests
Vol. per Test: 5 µl
Clone: UM7F8
Immunogen: Human T-leukemic and Thymic Cell Lines
Isotype: Mouse (BALB/c) IgG1, κ
Reactivity: QC Testing: Human
Workshop: V T020; BP420
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description

CD98 is a disulfide-linked heterodimer composed of a ~80-85 kDa, type II membrane glycoprotein heavy chain, (CD98hc), and ~40-45 kDa light chain. The UM7F8 monoclonal antibody specifically recognizes CD98hc, which is also known as 4F2 heavy chain antigen (4F2hc). CD98 is broadly expressed on hematopoietic cells, including peripheral blood lymphocytes, monocytes and granulocytes (low), as well as non-hematopoietic cells, eg, intestinal epithelial cells. CD98 expression is upregulated on activated and proliferating cells. CD98hc is encoded by the SLC3A2 [solute carrier family 3 (amino acid transporter heavy chain), member 2] gene. CD98 reportedly functions in transmembrane amino acid transport and in the regulation of integrin signaling which are involved in the regulation of cellular activation, proliferation, and survival. The UM7F8 antibody is reportedly a functional antibody that can costimulate T cell proliferative responses.

The antibody was conjugated to BD Horizon BB515 which is part of the BD Horizon Brilliant™ Blue family of dyes. With an Ex Max near 490 nm and an Em Max near 515 nm, BD Horizon BB515 can be excited by the blue laser (488 nm) laser and detected with a 530/30 nm filter. This dye has been exclusively developed by BD Biosciences and is up to seven times brighter than FITC with less spillover into the PE channel. Due to similar excitation and emission properties, BB515, FITC, and Alexa Fluor® 488 cannot be used simultaneously. It is not recommended to use BB515 in cocktails that include Streptavidin conjugates as it may cause high background.

Flow cytometric analysis of CD98 expression on human peripheral blood lymphocytes - Staining comparisons between BD Horizon™ BB515- and FITC-conjugated antibodies. Human whole blood was stained with either BD Horizon™ BB515 Mouse IgG1, κ Isotype Control (Cat. No. 564416; dashed line histogram) or BD Horizon BB515 Mouse Anti-Human CD98 antibody (Cat. No. 565103/565948; bold solid line histogram). Alternatively, cells were stained with FITC Anti-Human CD98 antibody (Cat. No. 556076; thin solid line histogram). The erythrocytes were lysed with BD FACS™ Lysing Solution (Cat. No. 349202).

Overlaid histograms are shown to facilitate staining comparisons between: BB515 Anti-CD98 antibody versus its Ig Isotype Control (Left Panel), and BB515 Anti-CD98 antibody versus FITC Anti-CD98 antibody (Right Panel). The fluorescence histograms showing CD98 expression (or Ig Isotype control staining) were derived from gated events with the forward and side light-scatter characteristics of intact lymphocytes. Flow cytometric analysis was performed using a BD LSRFortessa™ Cell Analyzer 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™ BB515 under optimum conditions and unconjugated antibody was removed.

Application Notes

Application

| Flow cytometry | Routinely Tested |

Recommended Assay Procedure:
BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and CompBead to ensure that BD Comp beads are appropriate for your specific cellular application.

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).

For optimal results, it is recommended to perform 2 washes after staining with antibodies. Cells may be prepared, stained with antibodies and washed twice with wash buffer per established protocols for immunofluorescence staining, prior to acquisition on a flow cytometer. Performing fewer than the recommended wash steps may lead to increased spread of the negative population.

Suggested Companion Products

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<th>Name</th>
<th>Size</th>
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<td>Stain Buffer (FBS)</td>
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<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
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<td>Brilliant Stain Buffer</td>
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<td>349202</td>
<td>BD FACST™ Lysing Solution</td>
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<td>565948</td>
<td>BBS15 Mouse Anti-Human CD98</td>
<td>25 Tests</td>
<td>UM7F8</td>
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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. 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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. 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.
6. Please refer to http://regdocs.bd.com to access safety data sheets (SDS).

References
Kishimoto T. Tadamitsu 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(Biology)