**Technical Data Sheet**

**Purified NA/LE Hamster Anti-Mouse CD28**

**Product Information**

**Material Number:** 553294  
**Alternate Name:** Cd28; CD28 antigen; T-cell-specific surface glycoprotein CD28  
**Size:** 0.5 mg  
**Concentration:** 1.0 mg/ml  
**Clone:** 37.51  
**Immunogen:** Mouse EL-4 (T-cell lymphoma) Cells  
**Isotype:** Syrian Hamster IgG2, λ  
**Reactivity:** QC Testing: Mouse  

**Storage Buffer:** No azide/low endotoxin: Aqueous buffered solution containing protein stabilizer, no preservative, 0.2µm sterile filtered. Endotoxin level is ≤0.01 EU/µg (≤0.001 ng/µg) of protein as determined by the LAL assay.

**Description**

The 37.51 antibody reacts with CD28, which is expressed on most thymocytes, at low density on nearly all CD4+ and CD8+ peripheral T cells, and at even lower density on NK cells. The expression of CD28, in splenocytes and thymocytes, has been reported to increase after activation. CD28 transcripts are found in mast cells, and cell-surface expression of CD28 is induced upon maturation or activation of mast cells. It has been reported that CD28 is not expressed on some populations of intraepithelial T lymphocytes. CD28 is a costimulatory receptor; its ligands include CD80 (B7-1) and CD86 (B7-2). The 37.51 mAb augments proliferation and cytokine production by activated T and NK cells and can provide a costimulatory signal for CTL induction. There is considerable evidence that CD28 is a costimulatory receptor involved in many, but not all, T cell-dependent immune responses.

**Preparation and Storage**

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. This preparation contains no preservatives, thus it should be handled under aseptic conditions.

**Application Notes**

**Application**  
Flow cytometry  
Routinely Tested  
Immunochemistry-frozen  
Tested During Development  
(Co)-stimulation  
Reported  
Blocking  
Reported  
Immunoprecipitation  
Reported  
Cytotoxicity  
Reported

**Recommended Assay Procedure:**

**Flow Cytometry:** For multicolor staining of cell suspensions from peripheral lymphoid tissues (e.g. detection of T lymphocytes and/or NK cells), investigators are encouraged to utilize Purified Rat Anti-Mouse CD16/CD32 [Mouse BD Fc Block™] (Cat. No. 553141) to minimize non-specific binding. In addition, since CD28 may be expressed at low density on resting peripheral T lymphocytes, investigators may wish to amplify the staining signal by using a biotinylated second-step antibody followed by a "bright" third-step reagent, such as PE Streptavidin (Cat. No. 554061). If Mouse BD Fc Block™ is used, investigators need to be aware of and account for any potential crossreactivity that may occur between the second-step or third-step reagents chosen with the Mouse BD Fc Block™. Biotin Mouse Anti-Syrian Hamster IgG2 (Cat. No. 554029) would be a suggested second-step antibody for investigators to consider utilizing.

**Suggested Companion Products**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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<tbody>
<tr>
<td>553961</td>
<td>Purified NA/LE Hamster IgG2, λ1 Isotype Control</td>
<td>0.5 mg</td>
<td>Ha4/8</td>
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<td>553141</td>
<td>Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)</td>
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<td>2.4G2</td>
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<td>554061</td>
<td>PE Streptavidin</td>
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<td>(none)</td>
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<tr>
<td>554029</td>
<td>Biotin Mouse Anti-Syrian Hamster IgG2</td>
<td>0.5 mg</td>
<td>G192-3</td>
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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Although hamster immunoglobulin isotypes have not been well defined, BD Biosciences Pharmingen has grouped Armenian and Syrian hamster IgG monoclonal antibodies according to their reactivity with a panel of mouse anti-hamster IgG mAbs. A table of the hamster IgG groups, Reactivity of Mouse Anti-Hamster Ig mAbs, may be viewed at http://www.bdbiosciences.com/documents/hamster_chart_11x17.pdf.

References


Wells AD, Gudmundsdottir H, Turka LA. Following the fate of individual T cells throughout activation and clonal expansion. Signals from T cell receptor and CD28 differentially regulate the induction and duration of a proliferative response. *J Clin Invest.* 1997; 100(12):3173-3183. (Biology: (Co)-stimulation)