

1P-785-T025

## Monoclonal Antibody to CD152 Phycoerythrin (PE) conjugated (25 tests)

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| <b>Clone:</b>               | BNI3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Isotype:</b>             | Mouse IgG2a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Specificity:</b>         | The mouse monoclonal antibody BNI3 recognizes human CD152 / CTLA4, an approximately 45 kDa type I transmembrane protein serving as a negative regulator of T cell responses.                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Regulatory Status:</b>   | RUO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Immunogen:</b>           | Human CD152-IgG heavy chain fusion protein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Species Reactivity:</b>  | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Preparation:</b>         | The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Storage Buffer:</b>      | The reagent is provided in stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Storage / Stability:</b> | Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Usage:</b>               | The reagent is designed for Flow Cytometry analysis of human blood cells using 10 µl reagent / 100 µl of whole blood or 10 <sup>6</sup> cells in a suspension. The content of a vial (0.25 ml) is sufficient for 25 tests.                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Expiration:</b>          | See vial label                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Lot Number:</b>          | See vial label                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Background:</b>          | CD152 / CTLA-4 is a homodimeric transmembrane protein similar to CD28 and binding the same ligands, i.e. CD80 (B7.1) and CD86 (B7.2), but with higher affinity. Unlike CD28 with important costimulating functions, CD152 acts as an important inhibitory receptor essential for modulation of the immune system. CD152 / CTLA-4 becomes transiently expressed on activated T cells and its malfunction can cause autoimmune diseases, such as insulin-dependent diabetes mellitus, Graves disease, Hashimoto thyroiditis, celiac disease, systemic lupus erythematosus, or thyroid-associated orbitopathy. |

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**Antibodies**

- References:**
- \*Kraszula L, Eusebio M, Kupczyk M, Kuna P, Pietruczuk M: The use of multi-color flow cytometry for identification of functional markers of nTregs in patients with severe asthma. *Pneumonol Alergol Pol.* 2012;80(5):389-401.
  - \*Chin LT, Chu C, Chen HM, Hsu SC, Weng BC, Chu CH: Site-directed in vitro immunization leads to a complete human monoclonal IgG4 lambda that binds specifically to the CDR2 region of CTLA-4 (CD152) without interfering the engagement of natural ligands. *BMC Biotechnol.* 2007 Aug 23;7:51.
  - \*Steiner K, Waase I, Rau T, Dietrich M, Fleischer B, Bröker BM: Enhanced expression of CTLA-4 (CD152) on CD4+ T cells in HIV infection. *Clin Exp Immunol.* 1999 Mar;115(3):451-7.
  - \*Steiner K, Moosig F, Csernok E, Selleng K, Gross WL, Fleischer B, Bröker BM: Increased expression of CTLA-4 (CD152) by T and B lymphocytes in Wegener's granulomatosis. *Clin Exp Immunol.* 2001 Oct;126(1):143-50.
  - \*Rissiek A, Baumann I, Cuapio A, Mautner A, Kolster M, Arck PC, Dodge-Khatami A, Mittrücker HW, Koch-Nolte F, Haag F, Tolosa E: The expression of CD39 on regulatory T cells is genetically driven and further upregulated at sites of inflammation. *J Autoimmun.* 2015 Apr;58:12-20.

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