The CD28 antigen, (Tp44), is a homodimeric, disulfide-linked, type 1 transmembrane protein; the monomer is 202 amino acid-long, with a molecular weight of 44 kDa (1, 2). The extracellular region, homologous to an Ig V-like domain, shares significant amino acid sequence with the CD152 antigen (CTLA-4) (3).

The CD28 antigen is involved in the interaction of T lymphocytes with professional antigen-presenting cells (APCs), through its counter-receptors, B7-1/BB-1 (CD80) and B7-2/B70 (CD86). It provides a major co-stimulatory signal for T cell activation, proliferation and lymphokine production. The CD28 family of receptors (CD28, CTLA-4, ICOS, PD-1 and BTLA) plays a critical role in controlling the adaptive immune response. The CD28 receptor can enhance T cell antigen receptor (TCR) signals, as well as deliver independent signals. Although the signals through CD28 are crucial for the initial co-stimulation of interleukin-2 (IL-2) production (4), a TCR-independent CD28 signal leads to the selective transcription of survival, but not proliferative genes (5).

The cytoplasmic region of CD28 can associate with the PI-3-kinase (2), the GRB-2/SOS complex, and the T cell-specific protein-tyrosine kinase ITK (6, 7). The pYMNM motif of the intracellular domain of CD28 binds to the SH2 domains of PI3-kinase and GRB-2. CD28 is expressed on T cells, on plasma cells and thymocytes (1, 8).

The CD28.2 monoclonal antibody has been assigned to the CD28 cluster of differentiation at the 5th International Workshop on Human Leucocyte Differentiation Antigens in Boston, U.S.A., in 1993 (1).

**REAGENT**

*IOTest CD28-PC5.5 Conjugated Antibody PN B24027 – 0.5 mL – Liquid – Clone CD28.2*

**SPECIFICITY**

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**REAGENT**

IOTest CD28-PC5.5 Conjugated Antibody PN B24027 – 0.5 mL – Liquid

**Clone**

CD28.2

**Isotype**

IgG1, Mouse

**Immunogen**

Transfected murine cell line

**Hybridoma**

X63 x (balb/c x C3H)

**Source**

Ascites fluid or supernatant of in vitro cultured hybridoma cells.

**Purification**

Affinity chromatography

**Conjugation**

RPhycerythrin-Cyanine 5.5 (PC5.5)

**Molar Ratio**

PC5.5 / Ig : 0.5 - 1.5

**Fluorescence**

Excites at 488 nm

Emits at 692 nm

**REAGENT CONTENTS**

This antibody is provided in phosphate-buffered saline, containing 0.1% sodium azide and 2 mg/mL bovine serum albumin.

**Concentration:** See lot specific Certificate of Analysis at www.beckmancoulter.com.

**STATEMENTS OF WARNING**

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.

2. Specimens, samples and all material coming in contact with them should be considered potentially infectious and disposed of with proper precautions.

3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.

4. Do not use antibody beyond the expiration date on the label.

5. Do not expose reagents to strong light or to freezing. When handled properly, this reagent will remain stable for at least 12 months in the dark.

6. Avoid microbial contamination of reagents or incorrect results might occur.

7. Use good laboratory practices when handling this reagent.

8. Any change in the physical appearance of the reagents may indicate deterioration and the reagent should not be used.

**STORAGE AND HANDLING CONDITIONS AND STABILITY**

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

**PRECAUTIONS**

Due to the tandem structure of the fluorochrome, PC5.5 also emits light at 692 nm. Therefore, for multi-color analysis, the compensation matrix should be carefully checked when changing the lot of a PC5.5 conjugate.

**SELECTED RESEARCH REFERENCES**


For additional information, or if damaged product is received, call Beckman Coulter Customer Service at 800-526-7694 (USA or Canada) or contact your local Beckman Coulter Representative.

www.beckmancoulter.com

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