**SPECIFICITY**

The CD2 antigen (1) has been formerly described as the sheep E-rosette receptor and is alternatively known as T11 antigen or leucocyte function-associated molecule 2 (LFA-2). It is a 50 kDa single chain type I transmembrane glycoprotein that comprises two external domains belonging to the immunoglobulin superfamily (IgSF) (2). Crystalllographic studies of soluble, deglycosylated forms of rat and human CD2 molecules (3, 4), revealed that the N-terminal, distal domain 1 of the molecule is a V-type IgSF domain, and that the proximal domain 2 is a C-type IgSF domain. The V-type domain 1 lacks the usually conserved disulfide bonds between the beta sheets. The extracellular segment includes at least three N-glycosylation sites, believed to be involved in the interactions with the CD2 ligands. CD2 has a relatively large cytoplasmic domain which is required for the activation produced by certain combinations of CD2 antibodies. Signaling molecules, such as Fyn, Lck and the PI3-kinase, have been reported to associate with the intracellular domain of CD2 (5).

The first CD2 ligand identified was CD58 (LFA-3), a heavily glycosylated molecule of 70 kDa, broadly expressed on leucocytes, erythrocytes and endothelial cells (6). The binding site for CD58 lies on one face of the first domain of human CD2 (7). In addition to CD58, there is evidence that CD48 and CD59 may be ligands for CD2. The CD2 molecule is also able to interact with CD48, but with considerably weaker affinity than with CD58 (8).

The CD58-CD2 interaction is a well known component of intercellular adhesion and costimulatory signaling in T cells (6, 9). In contrast, little is known about the physiological roles of the other putative ligands (1). CD2 has been described as being involved in the regulation of human T-cell cytokine production (10), and in a Fas-independent induced apoptosis of activated human peripheral T cells (11 – 13). CD2 is present on all human non-B peripheral lymphocytes, on the majority of thymic T cells (14, 15), and on a subset of thymic B cells. Several epitopes can be distinguished on the CD2 molecule (16). The 39C1.5 monoclonal antibody, also known as CD2.9 (17), reacts with the T11-1 group of epitopes. It has been assigned to the CD2 cluster of differentiation at the 2nd International Workshop on Human Leucocyte Differentiation Antigens in Boston, USA, in 1984 (16, 18).

### REAGENT

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<th>REAGENT</th>
<th>IOTest CD2-APC-Alexa Fluor 750</th>
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<tr>
<td>Clone</td>
<td>PN B01681 – 0.5 mL – Liquid – 10 μL/test – Clone 39C1.5</td>
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### PRECAUTIONS

Due to the tandem structure of the fluorochrome, APC-Alexa Fluor 750 also emits light at 660 nm. This secondary emission peak varies from lot-to-lot of APC-Alexa Fluor 750. Therefore, for multi-color analysis, the compensation matrix should be carefully checked when changing the lot of a APC-Alexa Fluor 750-conjugate.

### SELECTED RESEARCH REFERENCES


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**IOTest CD2-APC-Alexa Fluor 750**

**PN B01681 – 0.5 mL – Liquid – 10 μL/test – Clone 39C1.5**

**Analyte Specific Reagent.**

Analytical and performance characteristics are not established.

TRADEMARKS
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