# Product datasheet

## Anti-CD3 antibody [CD3-12] ab11089

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### Overview

**Product name**
Anti-CD3 antibody [CD3-12]

**Description**
Rat monoclonal [CD3-12] to CD3

**Host species**
Rat

**Specificity**
ab11089 recognises a highly conserved epitope of the CD3 molecule expressed by T lymphocytes.

**Tested applications**
Suitable for: Flow Cyt, IHC-Fr, IHC-P, WB

**Species reactivity**
- **Reacts with**: Mouse, Horse, Chicken, Dog, Human, Pig, Rhesus monkey
- **Predicted to work with**: Sheep, Rabbit, Cynomolgus monkey, Woodchuck

**Immunogen**
Synthetic peptide corresponding to Human CD3. Derived from cytoplasmic epitope.

**Sequence:**
ERPPVPNPDPYEPC

Database link: [P07766](https://example.com/database)

### Properties

**Form**
Liquid

**Storage instructions**
Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

**Storage buffer**
Preservative: 0.05% Sodium azide
Constituent: PBS

**Purity**
Protein G purified

**Purification notes**
Purified IgG prepared from tissue culture supernatant.

**Clonality**
Monoclonal

**Clone number**
CD3-12

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For more details and usage information, please refer to the [product datasheet](https://example.com/datasheet).
Isotype

IgG1

Applications

Our Abpromise guarantee covers the use of ab11089 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Cyt</td>
<td></td>
<td>Use at an assay dependent concentration. Membrane permeabilization is recommended for this application. ab18407 - Rat monoclonal IgG1, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>IHC-P</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. 1mM EDTA pH8.0 is recommended for this purpose.</td>
</tr>
<tr>
<td>WB</td>
<td></td>
<td>Use at an assay dependent concentration. Predicted molecular weight: 23.1 kDa.</td>
</tr>
</tbody>
</table>

Target

Function

The CD3 complex mediates signal transduction.

Involvement in disease

Defects in CD3D are a cause of severe combined immunodeficiency autosomal recessive T-cell-negative/B-cell-positive/NK-cell-positive (T(-)/B(+)/NK(+) SCID) [MIM:608971]. A form of severe combined immunodeficiency (SCID), a genetically and clinically heterogeneous group of rare congenital disorders characterized by impairment of both humoral and cell-mediated immunity, leukopenia, and low or absent antibody levels. Patients present in infancy recurrent, persistent infections by opportunistic organisms. The common characteristic of all types of SCID is absence of T-cell-mediated cellular immunity due to a defect in T-cell development.

Sequence similarities

Contains 1 ITAM domain.

Cellular localization

Membrane.

Images

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IHC image of CD3 staining in a formalin fixed, paraffin embedded human tonsil tissue.

The section was pre-treated using pressure cooker heat mediated antigen retrieval with sodium citrate buffer (pH 6). The section was incubated with ab11089 at 1/250 dilution for 15 minutes at room temperature. A goat anti-rat biotinylated secondary antibody was used to detect the primary, and visualized using an HRP conjugated ABC system. The section was counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

IHC image of CD3 staining in a formalin fixed, paraffin embedded normal mouse lymph node tissue.

The section was pre-treated using pressure cooker heat mediated antigen retrieval with sodium citrate buffer (pH 6). The section was incubated with ab11089 at 1/250 dilution for 15 minutes at room temperature. A goat anti-rat biotinylated secondary antibody was used to detect the primary, and visualized using an HRP conjugated ABC system. The section was counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.
Flow Cytometry - Anti-CD3 antibody [CD3-12] (ab11089)

Staining of human peripheral blood lymphocytes with Rat anti Human CD3 (ab11089) by Flow cytometry (FACS).

ab11089 staining CD3 in mouse lymph node tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections).

Tissue was fixed with formaldehyde and blocked with 15% serum for 60 minutes at 20°C. Antigen retrieval was by heat mediation in sodium citrate (pH 6). Samples were incubated with primary antibody (1/250 in TBS) for 18 hours at 20°C. An Alexa Fluor® conjugated goat anti-rat IgG polyclonal (1/400) was used as the secondary antibody.
All lanes: Anti-CD3 antibody [CD3-12] (ab11089) at 1 µg/ml

Lane 1: THP-1 (Human monocytic leukemia cell line) whole cell lysate (negative control)

Lane 2: Raji (Human Burkitt's lymphoma cell line) whole cell lysate (negative control)

Lane 3: Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate

Lane 4: Human thymus tissue lysate

Lane 5: Mouse thymus tissue lysate

Lane 6: Rat thymus tissue lysate

Lysates/proteins at 15 µg per lane.

Secondary

All lanes: Goat anti-Rat at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 23.1 kDa

Observed band size: 23 kDa

why is the actual band size different from the predicted?

This blot was produced using a 4-12% Bis-tris gel under the MES buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using Licor blocking buffer before being incubated with ab11089 overnight at 4°C. Antibody binding was detected using Goat anti-Rat secondary at a 1:100000 dilution for 1hr at room temperature and then imaged.

Anti-CD3 antibody [CD3-12] (ab11089) + Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate

Secondary

HRP-conjugated goat anti-rat IgG

Predicted band size: 23.1 kDa
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