Lymphocyte function-associated antigen 1 (LFA-1, CD11a/CD18) is a cell adhesion molecule belonging to beta-2 integrin group with other two members Mac-1 (CD11b/CD18) and p150/CD18, which are herodimers with distinct alpha subunits of 150-180 kDa and same beta subunit of 95 kDa. It is expressed on T and B cells, granulocytes, and macrophages. LFA-1 adhesion is governed by its natural ligands including ICAM-1, 2, and 3, which are expressed on most leukocytes. It was also found that the IgSF member junctional adhesion molecule 1 (JAM-1) is also a LFA-1 ligand. LFA-1 participates in lymphocyte adhesion and activation, with prominent roles in the formation of the immunologic synapse and lymphocyte extravasation. Patients with leukocyte adhesion deficiency (LAD) disorder, a syndrome in which the LFA-1 integrin is mutated or missing, suffer severe recurrent bacterial infections and impaired overall immunity.

Stimulation of LFA-1 with antibodies or purified ICAMs induces augmentation of T-cell antigen receptor (TCR)-directed T-cell responsiveness. LFA-1 was shown to be linked to the tyrosine kinase signaling pathway that stimulates tyrosine phosphorylation and activation of phospholipase C-r1 (PLC-r1). Integrin beta-2 chain (CD18) crosslinking independently induced downstream mobilization of intracellular Ca\(^{2+}\) and potently costimulated TCR-induced Ca\(^{2+}\) flux with an increase in both amplitude and kinetics. Moreover, it was also demonstrated that LFA-1 induced the activation of src family kinases, Vav1 and p44/42 mitogen-activated protein kinase (MAPK), in human CD56+ NK cells. The LFA-1 signaling is directly linked to lymphocyte functional regulation. In addition, signaling through the LFA-1 integrin may affect c-Jun-driven transcription by regulating JAB1 nuclear localization. Disassociation of JAB1 from LFA-1 is induced by phosphorylation at Ser745 on LFA-1 and mediates LFA-1-dependent c-Jun activation and subsequent AP-1 activity. After cell stimulation by phorbol ester or by CD3 ligation, the amino acids Thr758-Thr760 and Ser745 of LFA-1 become phosphorylated by PKC.

REFERENCES

*Products are for research use only. They are not intended for human, animal, or diagnostic applications.*

![Image of gel electrophoresis](image1)

![Image of immunohistochemical staining](image2)

\[1\]

(Click to Enlarge) **Top:** Lanes: 1.) Marker [kDa] 230, 130, 95, 72, 56, 36, 28, 17, 11 2.) Human cell line RT-4 3.) Human cell line U-251MG sp 4.) Human plasma (IgG/HSA depleted) 5.) Human liver tissue 6.) Human tonsil tissue. **Bottom:** Immunohistochemical staining of human spleen shows strong cytoplasmic positivity in cells in red pulp.

**Details**

<table>
<thead>
<tr>
<th>Cat.No.:</th>
<th>CG1286</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigen:</td>
<td>Integrin beta-2 precursor recombinant protein epitope signature tag (PrEST).</td>
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</table>
**Isotype:**

Rabbit IgG

**Species & predicted species cross-reactivity ( ):**

Human

**Applications & Suggested starting dilutions:**

<table>
<thead>
<tr>
<th></th>
<th>WB</th>
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<tbody>
<tr>
<td></td>
<td>IP</td>
<td>n/d</td>
</tr>
<tr>
<td></td>
<td>IHC</td>
<td>1:200-1:500</td>
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<tr>
<td></td>
<td>ICC</td>
<td>n/d</td>
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<tr>
<td></td>
<td>FACS</td>
<td>n/d</td>
</tr>
</tbody>
</table>

**Predicted Molecular Weight of protein:**

29 kDa

**Specificity/Sensitivity:**

Detects endogenous Integrin-α2/LFA-1β proteins without cross-reactivity with other family members.

**Storage:**

Store at -20°C, 4°C for frequent use. Avoid repeated freeze-thaw cycles.

*Optimal working dilutions must be determined by end user.

**Products**

**Resources/Documents**

Product Sheet CG1286

**Misc. Links**

- Site
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- Distributors

**Contact Us**

Cell Applications, Inc
5820 Oberlin Drive, Suite 101
Source URL: https://www.cellapplications.com/anti-integrin-2lfa-1-rabbit-integrin-beta-2lfa-1-beta-antibody

Links