

Datasheet for ABIN3134579

**LPAR1 Protein (AA 1-364) (rho-1D4 tag)**[Go to Product page](#)**1** Image

## Overview

Quantity:	1 mg
Target:	LPAR1
Protein Characteristics:	AA 1-364
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This LPAR1 protein is labelled with rho-1D4 tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

## Product Details

Sequence:	<p>MAAASTSPV ISQPQFTAMN EQQCFYNESI AFFYNRSGKY LATEWNTVSK LVMGLGITVC VFIMLANLLV MVAIVNRRF HFPIYYLMAN LAAADFFAGL AYFYLMFNTG PNTRRLTVST WLLRQGLIDT SLTASVANLL AIAIERHITV FRMQLHTRMS NRRVVVVIVV IWTMAIVMGA IPSVGWNCIC DIDHCSNMAP LYSDSYLVFW AIFNLVTFV VVVLYAHIFG YVRQRTMRMS RHSSGPRRNR DTMMSSLKTV VIVLGAFIVC WTPGLVLLLL DVCCPQCDVL AYЕКFFLLLA EFNSAMNP II YSYRDKEMSA TFRQLCCQR NENPNGPTEG SDRSASSLNH TILAGVHSND HSVV</p> <p><b>Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.</b></p>
Characteristics:	<ul style="list-style-type: none"><li>• Made in Germany - from design to production - by highly experienced protein experts.</li><li>• Mouse Lpar1 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.</li><li>• State-of-the-art algorithm used for plasmid design (Gene synthesis).</li></ul>

## Product Details

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This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:	Three step purification of membrane proteins expressed in baculovirus infected SF9 insect cells:  <ol style="list-style-type: none"><li>1. Membrane proteins are fractioned by ultracentrifugation and subsequently solubilized with different detergents (detergent screen). Samples are analyzed by Western blot.</li><li>2. The best performing detergent is used for solubilization and the proteins are purified via their rho1D4 tag via two rho1D4 antibody columns: one DTT resistant, the other one not. Eluate fractions are analyzed by Western blot.</li><li>3. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatograph. Eluate fractions are analyzed by SDS-PAGE and Western blot.</li></ol>
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Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
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Sterility:	0.22 µm filtered
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Endotoxin Level:	Protein is endotoxin-free.
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Grade:	Crystallography grade
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## Target Details

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Target:	LPAR1
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## Target Details

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Alternative Name: Lpar1 ([LPAR1 Products](#))

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Background: Receptor for lysophosphatidic acid (LPA) (PubMed:11087877, PubMed:18066075). Plays a role in the reorganization of the actin cytoskeleton, cell migration, differentiation and proliferation, and thereby contributes to the responses to tissue damage and infectious agents. Activates downstream signaling cascades via the G(i)/G(o), G(12)/G(13), and G(q) families of heteromeric G proteins (PubMed:8922387, PubMed:9600933, PubMed:11040035, PubMed:18157949, PubMed:18066075, PubMed:23478264). Signaling inhibits adenylyl cyclase activity and decreases cellular cAMP levels (PubMed:11040035, PubMed:12215548). Signaling triggers an increase of cytoplasmic Ca(2+) levels (PubMed:12215548). Activates RALA, this leads to the activation of phospholipase C (PLC) and the formation of inositol 1,4,5-trisphosphate (PubMed:11040035, PubMed:12215548, PubMed:23478264). Signaling mediates activation of down-stream MAP kinases (PubMed:11040035). Contributes to the regulation of cell shape (PubMed:8922387, PubMed:9600933, PubMed:11040035, PubMed:11087877). Promotes Rho-dependent reorganization of the actin cytoskeleton in neuronal cells and neurite retraction (PubMed:9600933, PubMed:11040035, PubMed:12181339). Promotes the activation of Rho and the formation of actin stress fibers (PubMed:9600933, PubMed:12215548). Promotes formation of lamellipodia at the leading edge of migrating cells via activation of RAC1 (PubMed:23478264). Through its function as lysophosphatidic acid receptor, plays a role in chemotaxis and cell migration, including responses to injury and wounding (PubMed:11087877, PubMed:18066075, PubMed:23478264). Plays a role in triggering inflammation in response to bacterial lipopolysaccharide (LPS) via its interaction with CD14 (PubMed:21821728). Promotes cell proliferation in response to lysophosphatidic acid (PubMed:9600933, PubMed:11087877, PubMed:12215548, PubMed:18157949, PubMed:17692995, PubMed:23478264). Required for normal skeleton development (PubMed:21569876). May play a role in osteoblast differentiation (PubMed:21569876). Required for normal brain development (PubMed:17656621, PubMed:18708146). Required for normal proliferation, survival and maturation of newly formed neurons in the adult dentate gyrus (PubMed:18708146). Plays a role in pain perception and in the initiation of neuropathic pain (PubMed:15195086, PubMed:19689455).  
{ECO:0000269|PubMed:11040035, ECO:0000269|PubMed:11087877, ECO:0000269|PubMed:12181339, ECO:0000269|PubMed:12215548, ECO:0000269|PubMed:15195086, ECO:0000269|PubMed:17656621, ECO:0000269|PubMed:17692995, ECO:0000269|PubMed:18066075, ECO:0000269|PubMed:18157949, ECO:0000269|PubMed:18708146, ECO:0000269|PubMed:19689455, ECO:0000269|PubMed:21569876, ECO:0000269|PubMed:23478264, ECO:0000269|PubMed:8922387,

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## Target Details

	ECO:0000269 PubMed:9600933}.
Molecular Weight:	42.3 kDa Including tag.
UniProt:	<a href="#">P61793</a>
Pathways:	<a href="#">Myometrial Relaxation and Contraction</a> , <a href="#">Smooth Muscle Cell Migration</a>

## Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	Protein has not been tested for activity yet. In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.
Restrictions:	For Research Use only

## Handling

Format:	Liquid
Buffer:	100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)



**Image 1.** „Crystallography Grade“ protein due to multi-step, protein-specific purification process