

# DEPDC5 (3L15) Rabbit Monoclonal Antibody

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Catalog # AP93735

## Product Information

Application	WB
Primary Accession	<a href="#">O75140</a> , <a href="#">P61460</a>
Reactivity	Human, Mouse
Clonality	Monoclonal
Calculated MW	181264

## Additional Information

Gene ID	9681
Dilution	WB~~1:1000
Storage Conditions	-20°C

## Protein Information

Name	DEPDC5 {ECO:0000303   PubMed:23542697, ECO:0000312   HGNC:HGNC:18423}
Function	<p>As a component of the GATOR1 complex functions as an inhibitor of the amino acid-sensing branch of the mTORC1 pathway (PubMed:<a href="#">23723238</a>, PubMed:<a href="#">25457612</a>, PubMed:<a href="#">29590090</a>, PubMed:<a href="#">29769719</a>, PubMed:<a href="#">31548394</a>, PubMed:<a href="#">35338845</a>). In response to amino acid depletion, the GATOR1 complex has GTPase activating protein (GAP) activity and strongly increases GTP hydrolysis by RagA/RRAGA (or RagB/RRAGB) within heterodimeric Rag complexes, thereby turning them into their inactive GDP-bound form, releasing mTORC1 from lysosomal surface and inhibiting mTORC1 signaling (PubMed:<a href="#">23723238</a>, PubMed:<a href="#">25457612</a>, PubMed:<a href="#">29590090</a>, PubMed:<a href="#">29769719</a>, PubMed:<a href="#">35338845</a>). In the presence of abundant amino acids, the GATOR1 complex is negatively regulated by GATOR2, the other GATOR subcomplex, in this amino acid-sensing branch of the TORC1 pathway (PubMed:<a href="#">23723238</a>, PubMed:<a href="#">25457612</a>, PubMed:<a href="#">29769719</a>). Within the GATOR1 complex, DEPDC5 mediates direct interaction with the nucleotide-binding pocket of small GTPases Rag (RagA/RRAGA, RagB/RRAGB, RagC/RRAGC and/or RagD/RRAGD) and coordinates their nucleotide loading states by promoting RagA/RRAGA or RagB/RRAGB into their GDP-binding state and RagC/RRAGC or RagD/RRAGD into their GTP-binding state (PubMed:<a href="#">29590090</a>, PubMed:<a href="#">35338845</a>). However, it does not execute the GAP activity, which is mediated by NPRL2 (PubMed:<a href="#">29590090</a>).</p>
Cellular Location	Lysosome membrane. Cytoplasm, cytosol {ECO:0000250   UniProtKB:P61460}.

Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:P61460}.  
Note=Localization to lysosomes is mediated by the KICSTOR complex and is amino acid- independent.

#### Tissue Location

Expressed in developing and adult brain.

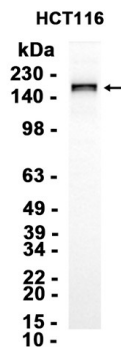
## Background

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This gene encodes a member of the IML1 family of proteins involved in G-protein signaling pathways. The mechanistic target of rapamycin complex 1 (mTORC1) pathway regulates cell growth by sensing the availability of nutrients. The protein encoded by this gene is a component of the GATOR1 (GAP activity toward Rags) complex which inhibits the amino acid-sensing branch of the mTORC1 pathway. Mutations in this gene are associated with autosomal dominant familial focal epilepsy with variable foci. A single nucleotide polymorphism in an intron of this gene has been associated with an increased risk of hepatocellular carcinoma in individuals with chronic hepatitis C virus infection. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Mar 2014]

## Images

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Western blot analysis of extracts from HCT116 cells using AP93735 at 1:1000.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.