Revision 1

Store at -20C

#64169

# ARALAR/AGC1 (D5I6I) Rabbit mAb

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| W, IP | H M R | Endogenous | 75 | Rabbit IgG | #O75746 | 8604 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |
| Immunoprecipitation | 1:50 |

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

## Specificity/Sensitivity

ARALAR/AGC1 (D5I6I) Rabbit mAb recognizes endogenous levels of total ARALAR/AGC1 protein.

## Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg309 of human ARALAR/AGC1 protein.

## Background

Mitochondrial carriers are integral proteins of the mitochondrial inner membrane that transport metabolites, nucleotides, and co-factors between the cytosol and the mitochondria (1). The calcium-binding mitochondrial carrier protein ARALAR (SLC25A12, AGC1) is an aspartate-glutamate exchange protein responsible for transporting mitochondrial aspartate across the mitochondrial inner membrane in exchange for cytosolic glutamate (2,3). ARALAR and other proteins of the aspartate-glutamate carrier (AGC) group are required for the transfer of mitochondrial aspartate to the cytosol, a key step in urea synthesis (4). Research studies using ARALAR-knockout mice indicate that ARALAR plays an important role in proper CNS myelination. Mice lacking ARALAR suffer from hypomyelination as a result of a lack of oligodendrocyte maturation caused by decreased brain N-acetylaspartate levels (5). Mutation of the corresponding SLC25A12 gene can result in global cerebral hypomyelination and severe psychomotor retardation, caused by deficient ARALAR activity and limited mitochondrial aspartate efflux (6).

## Background References

1. Walker, J.E. and Runswick, M.J. (1993) *J Bioenerg Biomembr* 25, 435-46.
2. del Arco, A. and Satrústegui, J. (1998) *J Biol Chem* 273, 23327-34.
3. Palmieri, L. et al. (2001) *EMBO J* 20, 5060-9.
4. Satrústegui, J. et al. (2007) *Physiol Rev* 87, 29-67.
5. Ramos, M. et al. (2011) *J Neurosci Res* 89, 2008-17.
6. Wibom, R. et al. (2009) *N Engl J Med* 361, 489-95.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation

## Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat

## Trademarks and Patents



## Limited Uses

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