

#64169 Store at -20°C

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:
WB, IP	H M R	Endogenous	75	Rabbit IgG	#O75746	8604

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
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-acetylaspargate 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 Satrustegui, J. (1998) *J Biol Chem* 273, 23327-34.
3. Palmieri, L. et al. (2001) *EMBO J* 20, 5060-9.
4. Satrustegui, 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

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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