

# KD-Validated Anti-MARS1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody

Catalog # AGI2205

## Product Information

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| <b>Application</b>       | WB, FC, ICC                                                                                                                                                                                                                                            |
| <b>Primary Accession</b> | <a href="#">P56192</a>                                                                                                                                                                                                                                 |
| <b>Reactivity</b>        | Rat, Human                                                                                                                                                                                                                                             |
| <b>Clonality</b>         | Monoclonal                                                                                                                                                                                                                                             |
| <b>Isotype</b>           | Rabbit IgG                                                                                                                                                                                                                                             |
| <b>Clone Names</b>       | 25GB185                                                                                                                                                                                                                                                |
| <b>Calculated MW</b>     | 101116                                                                                                                                                                                                                                                 |
| <b>Gene Name</b>         | MARS1                                                                                                                                                                                                                                                  |
| <b>Aliases</b>           | MARS1; Methionyl-TRNA Synthetase 1; MetRS; Methionine--TRNA Ligase, Cytoplasmic; SPG70; CMT2U; MARS; Methionyl-TRNA Synthetase; EC 6.1.1.10; Methionine TRNA Ligase 1, Cytoplasmic; Cytosolic Methionyl-TRNA Synthetase; ILFS2; MTRNS; ILLD; TTD9; MRS |
| <b>Immunogen</b>         | A synthesized peptide derived from human MARS                                                                                                                                                                                                          |

## Additional Information

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| <b>Gene ID</b>     | 4141                                                                                                                        |
| <b>Other Names</b> | Methionine--tRNA ligase, cytoplasmic, 6.1.1.10, Methionyl-tRNA synthetase, MetRS, MARS1 ( <a href="#">HGNC:6898</a> ), MARS |

## Protein Information

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| <b>Name</b>              | MARS1 ( <a href="#">HGNC:6898</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Synonyms</b>          | MARS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Function</b>          | Catalyzes the specific attachment of L-methionine to its cognate tRNA in a 2 step reaction: the amino acid (AA) is first activated by ATP to form AA-AMP and then transferred to the acceptor end of the tRNA (PubMed: <a href="#">11714285</a> , PubMed: <a href="#">33909043</a> ). Plays a role in the synthesis of ribosomal RNA in the nucleolus (PubMed: <a href="#">10791971</a> ). In addition, can prevent the misincorporation of homocysteine into tRNA and protein by catalyzing a tRNA-independent hydrolysis of the misactivated homocysteinyl-AMP intermediate. The homocysteinyl-AMP intermediate undergoes an intramolecular cyclization reaction in which the thiolate side chain of homocysteine displaces the AMP group, forming homocysteine-thiolactone and AMP (By similarity). |
| <b>Cellular Location</b> | Cytoplasm, cytosol. Nucleus, nucleolus. Note=Localizes to the nucleolus in proliferative cells but disappears in quiescent cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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