10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# MSY2 Rabbit pAb

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Catalog # AP54805

## Product Information

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| **Application** | WB, IHC-P, IHC-F, IF, E |
| **Primary Accession** | Q9Y2T7 |
| **Predicted** | Human, Mouse, Rat, Dog, Pig, Horse, Sheep |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 38518 |
| **Physical State** | Liquid |
| **Immunogen** | KLH conjugated synthetic peptide derived from Human MSY2/YBOX2/DBPC |
| **Epitope Specificity** | 101-185/364 |
| **Isotype** | IgG |
| **Purity** | affinity purified by Protein A |
| **Buffer** | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. |
| **SUBCELLULAR LOCATION** | Cytoplasm. Nucleus. |
| **SIMILARITY** | Contains 1 CSD (cold-shock) domain. |
| **SUBUNIT** | Found in a mRNP complex with PABPC1 and CSDA |
| **Post-translational modifications** | Phosphorylated during oocyte maturation and dephosphorylated following egg activation. Phosphorylated in vitro by a kinase activity associated with testicular mRNPs. Dephosphorylation leads to a decrease in its affinity to bind RNA in vitro. |
| **Important Note** | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. |
| **Background Descriptions** | MSY2 and YB-2 (MSY3,4) belong to the Y-box family of multifunctional proteins that regulate both transcription and translation (1–3). Y-box proteins interact with a wide variety of nucleic acid structures to act as transcription factors and mRNA masking proteins (1). The modular structure of Y-box proteins includes a highly conserved N-terminal cold-shock domain (CSD, equivalent to the bacterial cold-shock proteins) and four basic C-terminal domains containing arginine clusters and aromatic residues (4). MSY2 is expressed in testis and ovary where it may repress translation of parental mRNA (5,6). The gene encoding human MSY2 maps to chromosome 17p11.2-13.1 (5). YB-2 (MSY3,4 in mouse) is also known as DNA binding protein A and is highly expressed in the testis, heart and muscle (7,8). MSY2 and YB-2 bind to the consensus sequence 5'-UCCAUCA-3' contained in the Y-box element (9). |

## Additional Information

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| **Gene ID** | 51087 |
| **Other Names** | Y-box-binding protein 2, Contrin, DNA-binding protein C, Dbpc, Germ cell-specific Y-box-binding protein, MSY2 homolog, YBX2, CSDA3, MSY2 |

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| **Target/Specificity** | Expressed in oocytes and testicular germ cells in the stage of spermatogonia to spermatocyte. Also observed placental trophoblasts, as well as in vascular smooth muscle cells in the pulmonary artery, myocardium, and skeletal muscle. Undetectable in epithelial cells in respiratory, gastrointestinal, and urogenital tracts. Up-regulated in various carcinomas and germ cell tumors (at protein level). |
| **Dilution** | WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000 |
| **Storage** | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C. |

## Protein Information

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| **Name** | YBX2 |
| **Synonyms** | CSDA3, MSY2 |
| **Function** | Major constituent of messenger ribonucleoprotein particles (mRNPs). Involved in the regulation of the stability and/or translation of germ cell mRNAs. Binds to Y-box consensus promoter element. Binds to full-length mRNA with high affinity in a sequence-independent manner. Binds to short RNA sequences containing the consensus site 5'-UCCAUCA- 3' with low affinity and limited sequence specificity. Its binding with maternal mRNAs is necessary for its cytoplasmic retention. May mark specific mRNAs (those transcribed from Y-box promoters) in the nucleus for cytoplasmic storage, thereby linking transcription and mRNA storage/translational delay (By similarity). |
| **Cellular Location** | Cytoplasm. Nucleus |
| **Tissue Location** | Expressed in oocytes and testicular germ cells in the stage of spermatogonia to spermatocyte. Also observed placental trophoblasts, as well as in vascular smooth muscle cells in the pulmonary artery, myocardium, and skeletal muscle. Undetectable in epithelial cells in respiratory, gastrointestinal, and urogenital tracts. Up-regulated in various carcinomas and germ cell tumors (at protein level). |

## Background

MSY2 and YB-2 (MSY3,4) belong to the Y-box family of multifunctional proteins that regulate both transcription and translation (1–3). Y-box proteins interact with a wide variety of nucleic acid structures to act as transcription factors and mRNA masking proteins (1). The modular structure of Y-box proteins includes a highly conserved N-terminal cold-shock domain (CSD, equivalent to the bacterial cold-shock proteins) and four basic C-terminal domains containing arginine clusters and aromatic residues (4). MSY2 is expressed in testis and ovary where it may repress translation of parental mRNA (5,6). The gene encoding human MSY2 maps to chromosome 17p11.2-13.1 (5). YB-2 (MSY3,4 in mouse) is also known as DNA binding protein A and is highly expressed in the testis, heart and muscle (7,8). MSY2 and YB-2 bind to the consensus sequence 5'-UCCAUCA-3' contained in the Y-box element (9).

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