

Product datasheet for **MC225456**

Atm (NM_007499) Mouse Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: Atm (NM_007499) Mouse Untagged Clone
Tag: Tag Free
Symbol: Atm
Synonyms: AI256621; C030026E19Rik
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
Fully Sequenced ORF: >MC225456 representing NM_007499
Red=Cloning site **Blue**=ORF **Orange**=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**GCGATCGCC**

ATGAGTCTAGCACTCAATGATCTGCTCATTGCTGCCGGCAGTTAGAGCATGACAGAGCTACAGAAAGAA
GGAAAGAAGTGGATAAAATTAAGCGCCTGATTCAGGATCCTGAAACAGTCAACATTTAGATAGGCATTC
TGATCCAAACAAGGAAAATATCTGAATGGGATGCTGTTTTTCAGTTTTTACAGAAGTACATTCAAAA
GAAATGGAAAGTCTGAGAACAGCAAAATCAAATGTATCAGCCACCACACAGAGCTCCAGACAGAAGAAGA
TGCAAGAGATCAGCAGTTTGGTCAGATACTTCATCAAATGTGCAAAACAAAAGAGCACCCAGGCTAAAATG
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ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites:	Sgfl-Mlul
ACCN:	NM_007499
Insert Size:	9201 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	<ol style="list-style-type: none">1. Centrifuge at 5,000xg for 5min.2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.3. Close the tube and incubate for 10 minutes at room temperature.4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	<u>NM_007499.2</u> , <u>NP_031525.2</u>
RefSeq Size:	11964 bp
RefSeq ORF:	9192 bp
Locus ID:	11920
UniProt ID:	<u>Q62388</u>
Cytogenetics:	9 29.12 cM

Gene Summary:

Serine/threonine protein kinase which activates checkpoint signaling upon double strand breaks (DSBs), apoptosis and genotoxic stresses such as ionizing ultraviolet A light (UVA), thereby acting as a DNA damage sensor. Recognizes the substrate consensus sequence [ST]-Q. Phosphorylates 'Ser-139' of histone variant H2AX/H2AFX at double strand breaks (DSBs), thereby regulating DNA damage response mechanism. Also plays a role in pre-B cell allelic exclusion, a process leading to expression of a single immunoglobulin heavy chain allele to enforce clonality and monospecific recognition by the B-cell antigen receptor (BCR) expressed on individual B-lymphocytes. After the introduction of DNA breaks by the RAG complex on one immunoglobulin allele, acts by mediating a repositioning of the second allele to pericentromeric heterochromatin, preventing accessibility to the RAG complex and recombination of the second allele. Also involved in signal transduction and cell cycle control. May function as a tumor suppressor. Necessary for activation of ABL1 and SAPK. Phosphorylates DYRK2, CHEK2, p53/TP53, FANCD2, NFKBIA, BRCA1, CTIP, nibrin (NBN), TERF1, RAD9, UBQLN4 and DCLRE1C. May play a role in vesicle and/or protein transport. Could play a role in T-cell development, gonad and neurological function. Binds DNA ends. Plays a role in replication-dependent histone mRNA degradation. Phosphorylation of DYRK2 in nucleus in response to genotoxic stress prevents its MDM2-mediated ubiquitination and subsequent proteasome degradation. Phosphorylates ATF2 which stimulates its function in DNA damage response.[UniProtKB/Swiss-Prot Function]