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Maelstrom Antibody
Catalog # ASC11095

Specification

Maelstrom Antibody - Product Information

Application	**WB, IF, ICC, E**
Primary Accession	Q96JY0
Other Accession	AAY82463, 67866977
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Application Notes	**Maelstrom antibody can be used for detection of Maelstrom by Western blot at 1 µg/mL. Antibody can also be used for immunocytochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.**

Maelstrom Antibody - Additional Information

Gene ID **84944**

Target/Specificity
MAEL;

Reconstitution & Storage
Maelstrom antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
Maelstrom Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Maelstrom Antibody - Protein Information

Name MAEL

Function
Plays a central role during spermatogenesis by repressing transposable elements and preventing their mobilization, which is essential for the germline integrity. Acts via the piRNA metabolic process, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins and governs the methylation and subsequent repression of transposons. Its association with piP-bodies suggests a participation in the secondary piRNAs metabolic process. Required for the localization of germ-cell factors to the meiotic nuage (By similarity).

Cellular Location
Cytoplasm {ECO:0000250|UniProtKB:Q8BVN9}. Nucleus {ECO:0000250|UniProtKB:Q8BVN9}.

Note=Component of the meiotic nuage, also named P granule, a germ-cell-specific organelle required to repress transposon activity during meiosis. Specifically localizes to piP-bodies, a subset of the nuage which contains secondary piRNAs (By similarity). {ECO:0000250|UniProtKB:Q8BVN9}

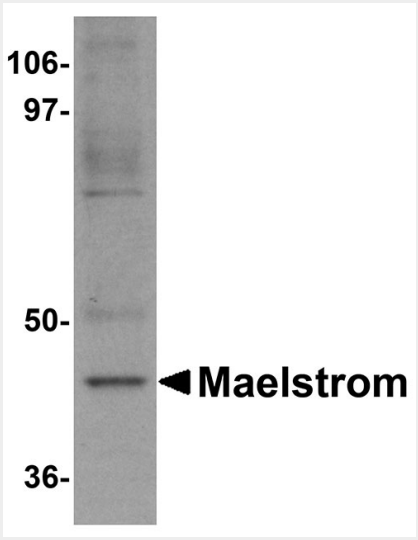
Tissue Location
Testis-specific. Expressed in various cancer cell lines, probably due to demethylation of its promoter {ECO:0000269|PubMed:19693694, ECO:0000269|Ref.1}

Maelstrom Antibody - Protocols

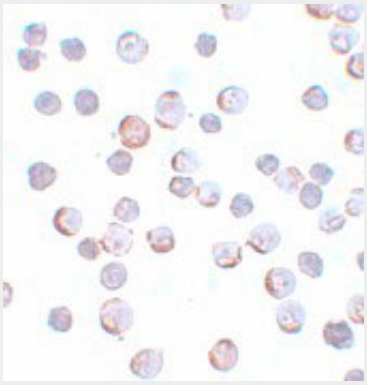
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Maelstrom Antibody - Images



Western blot analysis of Maelstrom in HeLa cell lysate with Maelstrom antibody at 1 µg/mL.



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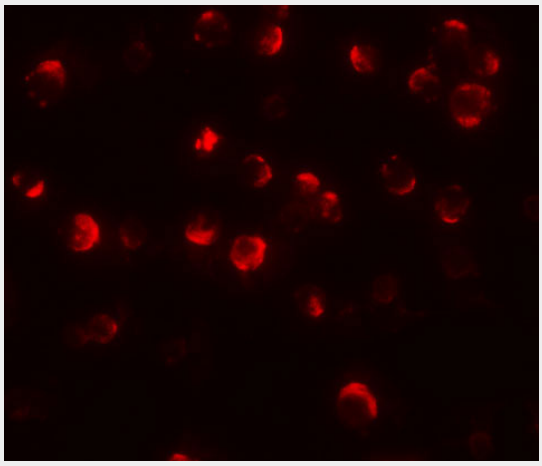
Immunocytochemistry of Maelstrom in HeLa cells with Maelstrom antibody at 5 µg/mL.



Immunofluorescence of Maelstrom in HeLa cells with Maelstrom antibody at 20 µg/mL.

Maelstrom Antibody - Background

Maelstrom Antibody: The mammalian homolog of the Drosophila protein Maelstrom is expressed in the male germline and localizes to the sex body in spermatocytes and the chromatoid body in round spermatids. Similar to its expression in Drosophila, Maelstrom is a component of nuages, a germ-cell specific organelle and is thought to be essential for spermatogenesis and transposon repression during meiosis. In humans, Maelstrom has been found to be expressed only in the testis and in various cancer cell lines. Treatment of these cell lines with the demethylating agent 5'-Aza-2-Deoxycytidine significantly upregulated Maelstrom levels, indicating that its expression is regulated by DNA methylation.

Maelstrom Antibody - References

Clegg NJ, Frost DM, Larkin MK, et al. Maelstrom is required for an early step in the establishment of Drosophila oocyte polarity: posterior localization of grk mRNA. Development1997; 124:4661-71.
Costa Y, Speed RM, Gautier P, et al. Mouse MAELSTROM: the link between meiotic silencing of unsynapsed chromatin and microRNA pathway? Hum. Mol. Genet.2006; 15:2324-34.
Soper SFC, van der Heijen GW, Hardiman TC, et al. Mouse Maelstrom, a component of nuage, is essential for spermatogenesis and transposon repression in meiosis. Dev. Cell2008; 15:285-97.
Xiao L, Wang Y, Zhou Y, et al. Identification of a novel human/testis gene MAEL that is regulated by DNA methylation. Mol. Biol. Rep.2009; epub.