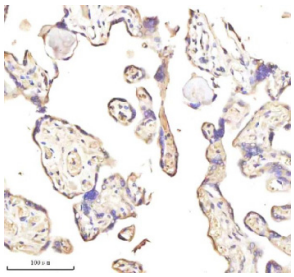
# MEST Antibody / Mesoderm-specific transcript protein (FY12947)

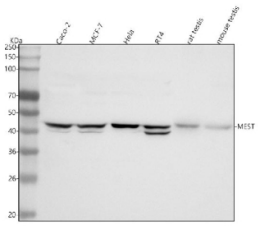
| Catalog No. | Formulation | Size |
|---|---|---|
| FY12947 | Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml | 100 ug |

**Bulk quote request**

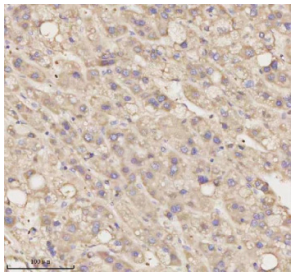
| | |
|---|---|
| **Availability** | 1-2 days |
| **Species Reactivity** | Human, Mouse, Rat |
| **Format** | Lyophilized |
| **Host** | Rabbit |
| **Clonality** | Polyclonal (rabbit origin) |
| **Isotype** | Rabbit IgG |
| **Purity** | Immunogen affinity purified |
| **Buffer** | Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4. |
| **UniProt** | Q5EB52 |
| **Applications** | Western Blot : 0.25-0.5ug/ml<br>Immunohistochemistry : 2-5ug/ml<br>ELISA : 0.1-0.5ug/ml |
| **Limitations** | This MEST antibody is available for research use only. |



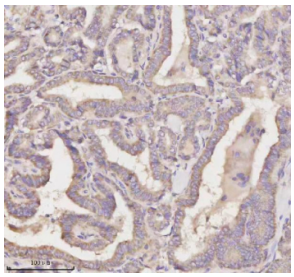
Immunohistochemical staining of MEST using anti-MEST antibody. MEST was detected in a paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MEST antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Western blot analysis of MEST using anti-MEST antibody. Lane 1: human Caco-2 whole cell lysates, Lane 2: human MCF-7 whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: human RT4 whole cell lysates, Lane 5: rat testis tissue lysates, Lane 6: mouse testis tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MEST antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A dominant band at ~43 kDa with a weaker ~40 kDa species is detected across samples. The small upward shift relative to the ~40 kDa prediction and the paired bands are consistent with glycosylation-dependent mobility and a minor hypoglycosylated or isoform pool of MEST.



Immunohistochemical staining of MEST using anti-MEST antibody. MEST was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MEST antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Immunohistochemical staining of MEST using anti-MEST antibody. MEST was detected in a paraffin-embedded section of human thyroid papillary carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MEST antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.

## Description

MEST antibody detects Mesoderm-specific transcript protein, an imprinted gene product associated with growth, differentiation, and placental development. The UniProt recommended name is Mesoderm-specific transcript protein (MEST), with alternate names including paternally expressed gene 1 (PEG1) and alpha/beta hydrolase domain-containing protein 14C. MEST belongs to the alpha/beta hydrolase superfamily and is expressed predominantly from the paternal allele, exhibiting tissue-specific imprinting patterns.

Functionally, MEST antibody identifies a 335-amino-acid protein that contains a predicted hydrolase fold and is implicated in adipocyte differentiation, embryonic growth, and metabolic regulation. Although its enzymatic substrate remains uncertain, structural homology suggests esterase or lipase-like activity. MEST is expressed during mesoderm formation and plays a key role in development of the placenta, skeletal muscle, and adipose tissue. Elevated MEST expression correlates with obesity, insulin resistance, and altered lipid storage, suggesting a regulatory role in adipogenesis and energy metabolism.

The MEST antibody is used to study genomic imprinting, epigenetic regulation, and developmental gene expression. MEST is a key marker for parent-of-origin gene expression studies, given that it is expressed exclusively from the paternal allele in most tissues. The MEST gene is located on chromosome 7q32.2 and lies within an imprinted domain regulated by differential DNA methylation. Aberrant methylation or loss of imprinting at this locus has been associated with developmental disorders such as Silver-Russell syndrome and growth abnormalities.

In adult tissues, MEST expression is detected in adipocytes, brain, and pancreas, where it influences energy balance and

metabolic plasticity. Research suggests that MEST interacts with Wnt signaling pathways to regulate cell fate determination and tissue remodeling. In cancer, MEST dysregulation has been linked to metastasis and epithelial-to-mesenchymal transition (EMT). Overexpression of MEST promotes cell migration and invasion, while silencing reduces tumor aggressiveness.

MEST antibody applications include western blotting, immunofluorescence, and RT-qPCR normalization in imprinting and developmental biology research. Because of its epigenetic regulation, MEST serves as a valuable biomarker for studying parental imprinting effects and obesity-related gene expression. NSJ Bioreagents provides this antibody validated for research use in developmental biology, epigenetics, and metabolic disease studies.

## Application Notes

Optimal dilution of the MEST antibody should be determined by the researcher.

## Immunogen

E.coli-derived human MEST recombinant protein (Position: A21-D320) was used as the immunogen for the MEST antibody.

## Storage

After reconstitution, the MEST antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.