

## DESCRIPTION

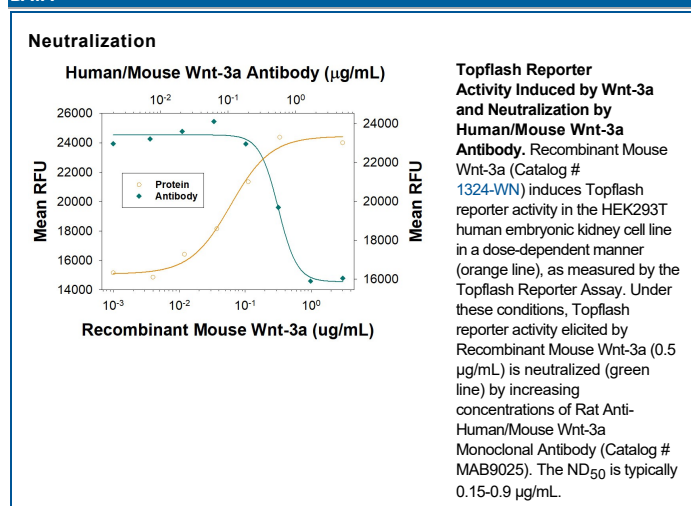
|                           |   |
|---------------------------|---|
| <b>Species Reactivity</b> | Human/Mouse   |
| <b>Specificity</b>        | Detects human and mouse Wnt-3a in direct ELISAs.  |
| <b>Source</b>             | Monoclonal Rat IgG <sub>1</sub> Clone # 930769  |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant  |
| <b>Immunogen</b>          | Chinese hamster ovary cell line CHO-derived recombinant mouse Wnt-3a Ser19-Lys352<br>Accession # P27467   |
| <b>Endotoxin Level</b>    | <0.10 EU per 1 µg of the antibody by the LAL method.  |
| <b>Formulation</b>        | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

|                       |   |
|-----------------------|---|
| <b>Neutralization</b> | Measured by its ability to neutralize Wnt-3a induced Topflash reporter activity in the HEK293T human embryonic kidney cell line. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.15-0.9 µg/mL in the presence of 0.5 µg/mL Recombinant Mouse Wnt-3a. |
|-----------------------|---|

## DATA



## PREPARATION AND STORAGE

|                                |  |
|--------------------------------|--|
| <b>Reconstitution</b>          | Reconstitute at 0.5 mg/mL in sterile PBS.  |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C   |
| <b>Stability &amp; Storage</b> | <b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

## BACKGROUND

Wnt-3a is one of about 19 vertebrate members of the Wingless-type MMTV integration site (Wnt) family of highly conserved cysteine-rich secreted glycoproteins important for normal developmental processes (1-3). Wnts bind to receptors of the Frizzled family in conjunction with a coreceptor of the low-density lipoprotein receptor-related protein family (LRP-5 or -6), or the Ryk atypical receptor tyrosine kinase (1, 4). Mouse Wnt-3a is a 44 kDa secreted hydrophobic glycoprotein containing a conserved pattern of 24 cysteine residues (5). Like other Wnts, Wnt-3a is modified by palmitate addition (at Cys 77) following glycosylation, which increases its hydrophobicity, secretion and activity (6, 7). A second site at Ser 209 is modified by palmitoleic acid and also contributes to activity and secretion (8). Mouse Wnt-3a shares 96% amino acid (aa) identity with human Wnt-3a, and 97% with bovine and canine Wnt-3a. The rat Wnt-3a precursor as it is apparently translated shares 100% aa identity with mouse Wnt-3a aa 63-352 (9). Wnt-3a also shares 87% aa identity with Wnt-3. During development, Wnt-3a is morphogen that is thought to coordinate somitogenesis and mesoderm boundary determination, and is expressed at the same locations and times as Wnt-2b and Wnt-5a (10). When Wnt-3a is deleted, mice fail to develop a hippocampus, and show defects in anterior-posterior patterning, somite development and tailbud formation (10-13). Recombinant Wnt-3a promotes proliferation of committed stem cell lineages *in vitro*, and may help maintain the cells in an undifferentiated state (6, 14). For example, Wnt-3a can induce self-renewal of hematopoietic stem cells, allowing expansion without further differentiation (6).

## References:

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