

DESCRIPTION

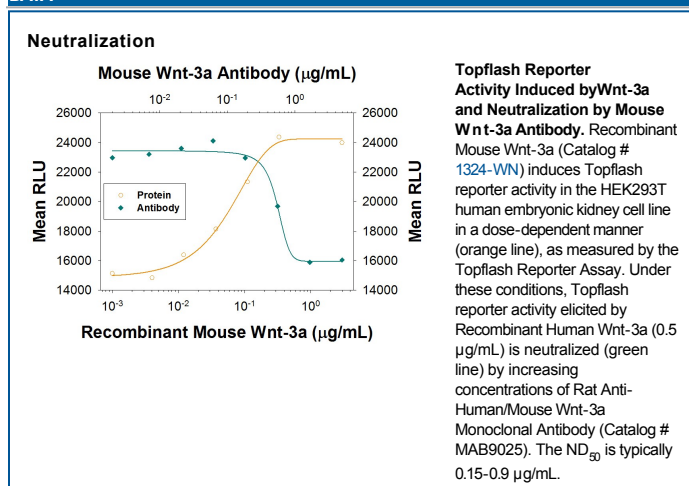
Species Reactivity	Human/Mouse
Specificity	Detects human and mouse Wnt-3a in direct ELISAs.
Source	Monoclonal Rat IgG ₁ Clone # 930769
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant mouse Wnt-3a Ser19-Lys352 Accession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

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



PREPARATION AND STORAGE

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

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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