Human/Mouse Wnt-3a Antibody

Recombinant Monoclonal Rat IgG_{2A} Clone # 217804.2R

Catalog Number: MAB13242

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects mouse Wnt-3a in direct ELISAs.
Source	Recombinant Monoclonal Rat IgG_{2A} Clone # 217804.2R
Purification	Protein A or G purified from cell culture supernatant
Immunogen	*E.coli*-derived recombinant mouse Wnt-3a Ser36-Gln75, Trp219-Arg269 Accession # P27487
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 either lyophilized or as a 0.2 μm filtered solution in PBS.

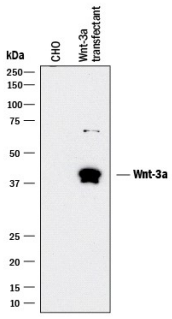
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Intracellular Staining by Flow Cytometry	0.25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

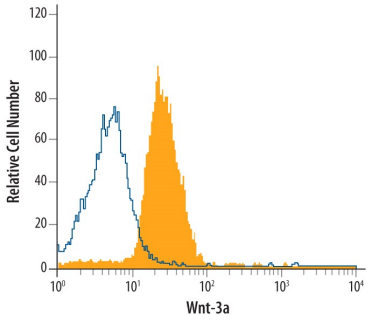
DATA

Western Blot



Detection of Mouse Wnt-3a by Western Blot. Western blot shows lysates of CHO Chinese hamster ovary cell line either mock transfected or transfected with mouse Wnt-3a. PVDF membrane was probed with 1 µg/mL of Rat Anti-Human/Mouse Wnt-3a Monoclonal Antibody (Catalog # MAB13242) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for Wnt-3a at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Intracellular Staining by Flow Cytometry



Detection of Wnt3A in BG01V Human Stem Cells by Flow Cytometry. BGO1v human embryonic stem cells were stained with Rat Anti-Human/Mouse Wnt-3a Monoclonal Antibody (Catalog # MAB13242, filled histogram) or isotype control antibody (Catalog # MAB006, open histogram), followed by Allophycocyanin-conjugated Anti-Rat IgG Secondary Antibody (Catalog # F0113). To facilitate intracellular staining, cells were fixed and permeabilized with FlowX FoxP3/Transcription Factor Fixation & Permeabilization Buffer Kit (Catalog # FC012).

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.** ● 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.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human/Mouse Wnt-3a Antibody

Recombinant Monoclonal Rat IgG_{2A} Clone # 217804.2R

Catalog Number: MAB13242

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:

1. Mikels, A.J. and R. Nusse (2006) Oncogene **25**:7461.
2. Miller, J.R. (2001) Genome Biol. **3**:3001.
3. Roelink, H. and R. Nusse (1991) Genes Dev. **5**:381.
4. Lu, W *et al.* (2004) Cell **119**:97.
5. Smolich, B.D. *et al.* (1993) Mol. Biol Cell **4**:1267.
6. Willert, K. *et al.* (2003) Nature **423**:448.
7. Komekado, H. *et al.* (2007) Genes Cells **12**:521.
8. Takada, R. *et al.* (2006) Dev. Cell **11**:791.
9. Entrez Accession # NP_001100475.
10. Dunty, W.C. *et al.* (2008) Development **135**:85.
11. Lee, S.M.K. *et al.* (2000) Development **127**:457.
12. Takada, S. *et al.* (1994) Genes Dev. **8**:174.
13. Ikeya, M. and S. Takada (2001) Mech. Dev. **103**:27.
14. Nusse, R. (2008) Cell Res. **18**:523.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449