Human/Mouse Wnt-3a
Alexa Fluor® 488-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 217804.2R

Catalog Number: IC13242G

100 µg

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects mouse Wnt-3a in direct ELISAs.
Source	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
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Intracellular Staining by Flow Cytometry	0.25-1 µg/10^6 cells	BG01V human embryonic stem cells fixed and permeabilized with FlowX FoxP3 Fixation & Permeabilization Buffer Kit (Catalog # FC012)

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

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.

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