

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Wnt-4 in direct ELISAs and Western blots. The antibody has also been shown to recognize a mammalian cell-expressed mouse Wnt-4 protein in Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse Wnt-4 Ile37-Glu76, Arg222-Thr295 Accession # P22724
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.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse Wnt-4
Immunohistochemistry	5-15 µg/mL	Immersion fixed paraffin-embedded sections of rat embryo (E15)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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-4 is a 38-42 kDa member of the Wnt family of secreted glycoproteins, which act as short-range signaling molecules via Frizzled receptors and a cascade of intracellular signals in vertebrate embryogenesis (1-2). Mouse Wnt-4 is synthesized as a 351 amino acid (aa) precursor with a 22 aa signal sequence and a 329 aa mature chain. The mature chain contains two potential sites for N-linked glycosylation. Relative to other members of the Wnt family, Wnt-4 contains 83 conserved aa, including 21 cysteines (1). Mature mouse Wnt-4 shares 99% aa sequence identity with mature human and rat Wnt-4. Wnt-4 has been shown to play a critical role in the development of the reproductive system and in the formation of the kidneys, adrenals, pituitary gland, and mammary tissues (3-6). In the development of the reproductive system, Wnt-4 expression is down-regulated in the developing gonad after E11.5, although it persists in the developing ovary (2, 6). Targeted deletion of Wnt-4 results in masculinization of XX mice, with rudimentary development of the masculine internal (Wolffian) ducts and degeneration of the female (Mullerian) reproductive tract (2, 6). In addition to its involvement in urogenital development, Wnt-4 is also expressed in the perichondrium of the long bones (7), and promotes osteoblast differentiation (8). Wnt-4 may also be associated with abnormal proliferation in human breast tissue (9). In humans, mutations in Wnt-4 are the cause of SERKAL syndrome, a syndrome consisting of female to male sex reversal, renal, adrenal, and lung dysgenesis, and developmental defects (3), and Rokitsansky-Kuster-Hauser syndrome, which is characterized by utero-vaginal atresia in otherwise phenotypically normal females with normal 46, XX karyotype (10).

References:

- Gavin, B.J. *et al.* (1990) *Genes Dev.* **4**:2319.
- Jordan, B.K. *et al.* (2001) *Am. J. Hum. Genet.* **68**:1102.
- Mandel, H. *et al.* (2008) *Am. J. Hum. Genet.* **82**:39.
- Bernard, P. and V.R. Harley (2007) *Int. J. Biochem. Cell Biol.* **39**:31.
- Kuulasmaa, T. *et al.* (2008) *Horm. Metab. Res.* **40**:668.
- Vainio, S. *et al.* (1999) *Nature* **397**:405.
- Gao, X. (2004) *Genes Dev.* **18**:2404.
- Chang, J. *et al.* (2007) *J. Biol. Chem.* **282**:30938.
- Huguet, E.L. *et al.* (1994) *Cancer Res.* **54**:2615.
- Philibert, P. *et al.* (2008) *J. Clin. Endocrinol. Metab.* **93**:895.