# Human Wnt-4 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF6076

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Human |
| **Specificity** | Detects human Wnt-4 in direct ELISAs and Western blots. In direct ELISAs, approximately 10-15% cross-reactivity with recombinant human Wnt-3A and recombinant mouse Wnt-10B is observed. |
| **Source** | Polyclonal Sheep IgG |
| **Purification** | Antigen Affinity-purified |
| **Immunogen** | Chinese hamster ovary cell line CHO-derived recombinant human Wnt-4<br>Ser23-Arg351<br>Accession # P56705 |
| **Formulation** | 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 as a 0.2 μm filtered solution in PBS. |

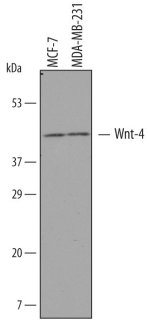
## APPLICATIONS

**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 |

## DATA

**Western Blot**




**Detection of Human Wnt-4 by Western Blot.** Western blot shows lysates of MCF-7 human breast cancer cell line and MDA-MB-231 human breast cancer cell line. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human Wnt-4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6076) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Wnt-4 at approximately 42 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 8.

## PREPARATION AND STORAGE

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|---|---|
| **Reconstitution** | Sterile PBS to a final concentration of 0.2 mg/mL. |
| **Shipping** | 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 |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

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## 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). Human 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 human Wnt-4 shares 99%, 98% and 99% aa sequence identity with mature mouse, rat and canine Wnt-4, respectively. 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 Rokitansky-Kuster-Hauser syndrome, which is characterized by utero-vaginal atresia in otherwise phenotypically normal females with normal 46, XX karyotype (10).

**References:**

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