Mouse Dkk-1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1765

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Dkk-1 in ELISAs and Western blots. In sandwich ELISAs, less than 6% cross-reactivity with recombinant human Dkk-1 and less than 0.1% cross-reactivity with recombinant mouse (rm) Dkk-2, rmDkk-3, and rmDkk-4 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Dkk-1 Ser30-His272 Accession # O54908
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

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 Dkk-1 (Catalog # 1765-DK)
Immunohistochemistry	5-15 µg/mL	See Below
Mouse Dkk-1 Sandwich Immunoassay		**Reagent**
ELISA Capture	0.2-0.8 µg/mL	Mouse Dkk-1 Antibody (Catalog # AF1765)
ELISA Detection	0.1-0.4 µg/mL	Mouse Dkk-1 Biotinylated Antibody (Catalog # BAF1765)
Standard		Recombinant Mouse Dkk-1 (Histidine-tagged) (Catalog # 1765-DK)

DATA

Immunohistochemistry

Dkk-1 in Mouse Embryo. Dkk-1 was detected in immersion fixed frozen sections of mouse embryo (15 d.p.c., cross-section through the eye) using Goat Anti-Mouse Dkk-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1765) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

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.
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 from date of receipt, 2 to 8 °C, reconstituted. ● 6 months from date of receipt, -20 to -70 °C, reconstituted.

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BACKGROUND

Dickkopf related protein 1 (Dkk-1) is the founding member of the Dickkopf family of proteins that includes Dkk-1, -2, -3, -4, and a related protein, Soggy (1, 2). Dkk proteins are secreted proteins that contain two conserved cysteine-rich domains separated by a linker region. Each domain contains ten cysteine residues (1-3). Mature mouse Dkk-1 is a 40 kDa glycosylated protein that shares 86%, 96%, 83% and 82% amino acid (aa) sequence identity with human, rat, rabbit and bovine Dkk-1, respectively. It also shares 41% and 36% aa identity with human Dkk-2 and Dkk-4, respectively. Dkk-1 and Dkk-4 are well documented antagonists of the canonical Wnt signaling pathway (1, 2). This pathway is activated by Wnt engagement of a receptor complex composed of the Frizzled proteins and one of two low-density lipoprotein receptor-related proteins, LRP5 or LRP6 (4). Dkk-1 antagonizes Wnt by forming ternary complexes of LRP5/6 with Kremen1 or Kremen2 (4, 5). Dkk-1/LRP6/Krm2 complex internalization has been shown to downregulate Wnt signaling (4, 5). Dkk-1 is expressed throughout development and antagonizes Wnt-7a during limb development (6, 7). Other sites of expression include developing neurons, hair follicles and the retina of the eye (8, 9). The balance between Wnt signaling and Dkk-1 inhibition is critical for bone formation and homeostasis (10). Insufficient or excess Dkk-1 activity in bone results in increased or decreased bone density, respectively (8, 11). In adults, Dkk-1 is expressed in osteoblasts and osteocytes, and neurons. Cerebral ischemia induces Dkk-1 expression, which contributes to neuronal cell death (12).

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