

## DKK3 Antibody /Dickkopf-related protein 3 (FY13018)

| Catalog No. | Formulation                                                              | Size   |
|-------------|--------------------------------------------------------------------------|--------|
| FY13018     | Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml | 100 ug |

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|                           |                                                                                                                                                             |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Availability</b>       | 1-2 days                                                                                                                                                    |
| <b>Species Reactivity</b> | Human, Mouse, Rat                                                                                                                                           |
| <b>Format</b>             | Lyophilized                                                                                                                                                 |
| <b>Clonality</b>          | Polyclonal (rabbit origin)                                                                                                                                  |
| <b>Isotype</b>            | Rabbit IgG                                                                                                                                                  |
| <b>Purity</b>             | Immunogen affinity purified                                                                                                                                 |
| <b>Buffer</b>             | Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na <sub>2</sub> HPO <sub>4</sub> .                                                                   |
| <b>UniProt</b>            | Q13278                                                                                                                                                      |
| <b>Applications</b>       | Western Blot : 0.25-0.5ug/ml<br>Immunocytochemistry : 5ug/ml<br>Immunofluorescence : 5ug/ml<br>Flow Cytometry : 1-3ug/million cells<br>ELISA : 0.1-0.5ug/ml |
| <b>Limitations</b>        | This DKK3 antibody is available for research use only.                                                                                                      |

### Description

DKK3 antibody detects Dickkopf-related protein 3, a secreted modulator of the Wnt signaling pathway involved in cell differentiation, tissue homeostasis, and tumor suppression. The UniProt recommended name is Dickkopf-related protein 3 (DKK3). This protein belongs to the Dickkopf family, which regulates Wnt receptor interactions and extracellular signaling gradients that control embryonic patterning and adult tissue renewal.

Functionally, DKK3 antibody identifies a 350-amino-acid glycoprotein containing two cysteine-rich domains characteristic of Dickkopf family members. Unlike DKK1 and DKK2, which act as strong Wnt antagonists, DKK3 exhibits context-dependent functions, modulating Wnt and TGF-beta signaling through receptor interactions involving LRP5/6 and Kremen proteins. DKK3 contributes to cellular differentiation, apoptosis, and angiogenesis, maintaining epithelial integrity and preventing uncontrolled proliferation.

The DKK3 gene is located on chromosome 11p15.3 and is broadly expressed in multiple tissues, including heart, kidney, and prostate. DKK3 expression is frequently downregulated in cancers due to promoter hypermethylation, leading to loss

of its tumor-suppressive function. Restoration of DKK3 expression suppresses tumor growth, reduces invasiveness, and enhances apoptosis by rebalancing Wnt/beta-catenin signaling and modulating pro-survival pathways.

In cardiovascular biology, DKK3 protects endothelial cells from oxidative stress and supports vascular stability. In the central nervous system, it promotes neurogenesis and protects neurons from excitotoxic injury. Its anti-inflammatory and anti-angiogenic properties extend its relevance to chronic diseases such as atherosclerosis and fibrosis. Circulating DKK3 levels have been proposed as biomarkers of renal injury and cardiac remodeling.

DKK3 antibody is widely used in developmental biology, cancer research, and signaling studies. It is suitable for western blotting, ELISA, and immunohistochemistry to detect secreted or intracellular DKK3 protein. This antibody supports investigations into Wnt pathway regulation, tumor suppression mechanisms, and tissue regeneration. It also aids in assessing DKK3 expression in cancers and cardiovascular disorders.

Structurally, DKK3 contains signal peptides and conserved cysteine motifs that mediate disulfide bond formation and protein stability. Post-translational modifications, including glycosylation, regulate its secretion and receptor interactions. NSJ Bioreagents provides DKK3 antibody reagents validated for use in Wnt signaling, tumor suppression, and developmental research.

## Application Notes

Optimal dilution of the DKK3 antibody should be determined by the researcher.

## Immunogen

E.coli-derived human DKK3/RIG recombinant protein (Position: M1-L110) was used as the immunogen for the DKK3 antibody.

## Storage

After reconstitution, the DKK3 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.