

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Dkk-3 in ELISAs. In direct ELISAs, no cross-reactivity with recombinant human Dkk-1, recombinant mouse (rm) Dkk-2, or rmDkk-3 is observed.                                                                                                                    |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2A</sub> Clone # 138728                                                                                                                                                                                                                           |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Dkk-3<br>Ala22-Ile350<br>Accession # Q9UBP4.1                                                                                                                                                                         |
| <b>Conjugate</b>          | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

|                                                |                                                                        |
|------------------------------------------------|------------------------------------------------------------------------|
| <b>ELISA Capture (Matched Antibody Pair)</b>   | Optimal dilution of this antibody should be experimentally determined. |
| <b>ELISA Detection (Matched Antibody Pair)</b> | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

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

## BACKGROUND

Dkk-3, also known as REIC (Reduced Expansion in Immortalized Cells), is one of four numbered members of the Dickkopf family of Wnt antagonists (1). Dkk-3 is a secreted monomer expressed in many normal human tissues, most strongly in heart, brain and spinal cord (1, 2), and during early embryonic development in the mouse (3). N-glycosylation at up to four sites preceding or between two conserved cysteine-rich motifs results in expression of a 45-65 kDa glycoprotein (1, 4). The cysteine-rich motifs contain 10 cysteines each, with prokineticin and colipase families containing sequences similar to those of the second motif (1, 5). Human Dkk-3 shows 82%, 88%, 85%, and 53% amino acid (aa) identity with mouse, bovine, canine, and chick Dkk-3, respectively, and 37-45% aa identity with other human Dkk family members. Several lines of evidence implicate Dkk-3 as a negative growth regulator. Dkk-3 is downregulated in many tumors as compared to normal cells, sometimes by loss of heterozygosity (4, 6). Downregulation by CpG hypermethylation in acute lymphoblastic leukemia is correlated with faster progression and shorter survival (7). Release of cultured cells from serum starvation results in downregulation of Dkk-3 in late G1 phase of the cell cycle (6). Over-expression of Dkk-3 results in tumor cell-line-specific growth inhibition, induction of apoptosis, and decreased tumorigenicity in nude mice (2, 4, 6). The prototype Dickkopf member, Dkk-1, antagonizes Wnt family signaling by binding to Wnt receptors LRP5 and LRP6 (low-density lipoprotein receptor-related proteins) and promoting their internalization (1, 9, 10). Results are less straightforward for Dkk-3, where some studies show binding to LRP5/6 while others do not. These effects appear to be dependent on the cells and conditions used (1, 6-10).

## PRODUCT SPECIFIC NOTICES

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