Overview

Synonyms	Dickkopf-1; DKK-1
Description	Dickkopf related protein 1 (DKK-1) is a chemokine that belongs to the DKK protein family, which also includes DKK-2, DKK-3 and DKK-4. DKK-1 was originally identified as a Xenopus head forming molecule that behaves as an antagonist for Wnt signaling. It is one of the most up-regulated genes during androgen-potentiated balding, with DKK-1 messenger RNA up-regulated a few hours after DHT treatment of hair follicles at the dermal papilla in vitro. Neutralizing bodies against DKK-1 reverses DHT effects on outer root sheath keratinocytes. DKK-1 expression is attenuated by L-threonate, a metabolite of ascorbatein vitro. DKK-1 promotes LRP6 internalization and degradation as it forms a ternary complex with the cell surface receptor Kremen. DKK-1 not only functions as a head inducer during development, but also regulates joint remodeling and bone formation, which indicate sits role in the pathogenesis of rheumatoid arthritis and multiple myeloma. Recombinant Human DKK-1 produced in HEK293 cells is a polypeptide chain containing 241 amino acids with C-terminal 6His. A fully biologically active molecule, rhDKK-1 has a molecular mass of 38-40 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques.
Species	Human
Source	*HEK293*
Biological Activity	ED_{50} < 4 µg/ml, measured in stimulation of alkaline phosphatase activity using CCl-226 cells.
Sequence	Thr32-His266 (Accession #: O94907), expressed with a C-terminal 6His TLNSVLNS NAIKNLPP PLGGAAGH PGSAVSAA PGILYPGG NKYQTIDN YQPYPCAE DEECGTDE YCASPTRG GDAGVQIC LACRKRRK RCMRHAMC CPGNYCKN GICVSSDQ NHFRGEIE ETITESFG NDHSTLDG YSRRTTLS SKMYHTKG QEGSVCLR SSDCASGL CCARHFWS KICKPVLK EGQVCTKH RRKGSHGL EIFQRCYC GEGLSCRI QKDHHQAS NSSRLHTC QRHHHHHH H

Properties

Measured Molecular Weight	38-40 kDa, observed by reducing SDS-PAGE.
Purity	> 95% as analyzed by SDS-PAGE.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS.
Reconstitution	Reconstituted in ddH_2O or PBS at 100 µg/ml.
Endotoxin Level	< 0.2 EU/µg, determined by LAL method.
Storage	Lyophilized recombinant DKK-1 remains stable up to 12 months at lower than -70°C from date of receipt. Upon reconstitution, Human DKK-1 should be stable up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.
Note	For research use only

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