APA741Ra01 2mg
Active Dickkopf Related Protein 1 (DKK1)
Organism Species: *Rattus norvegicus* (Rat)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Val36~Asn260

Tags: Two N-terminal Tags, His-tag and GST-tag

Purity: >98%

Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.01% sarcosyl, 5%Trehalose.

Applications: Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 8.1

Predicted Molecular Mass: 54.4kDa

Accurate Molecular Mass: 55kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

VLINS NAIKNLPPPL
GGAGGQPGSA VSVAPGVLYE GGNKYQTLDN YQPYPCAEDE ECGTDEYCSS
PSRGAAGVGG VQICLACRKR RKRCMRHAMC CPGNYCKNGI CMPSDHSHLP
RGEIEEGIIE NLGNDHGAGD GYPRRTTLTS KIYHTKGQEG SVCLRSSDCA
TGLCCARHFW SKICKPVLKE GQVCTKHRRK GSHGLEIFQR CYCGEGLACR
IQKDHHQTSN

[ACTIVITY]

Dickkopf-related protein 1 (DKK1) is a protein which is a member of the dickkopf family. It is a secreted protein with two cysteine rich regions and is involved in embryonic development through its inhibition of the Wnt signaling pathway. Dickkopf WNT signaling pathway inhibitor 1 (Dkk1) is a protein-coding gene that acts from the anterior visceral endoderm. The dickkopf protein encoded by DKK1 is an antagonistic inhibitor of the WNT signaling pathway that acts by isolating the CTNNb1 co-receptor so that it cannot aid in activating the WNT signaling pathway. DKK1 was also demonstrated to antagonize the Wnt/β-catenin pathway via a reduction in β-catenin and an increase in OCT4 expression. Besides, Low Density LiPoprotein Receptor Related Protein 5 (LRP5) has been identified as an interactor of DKK1 thus a binding ELISA assay was conducted to detect the interaction of recombinant rat DKK1 and recombinant rat LRP5. Briefly, DKK1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to LRP5-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-DKK1 pAb, then

aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of DKK1 and LRP5 was shown in Figure 1, and this effect was in a dose dependent manner.

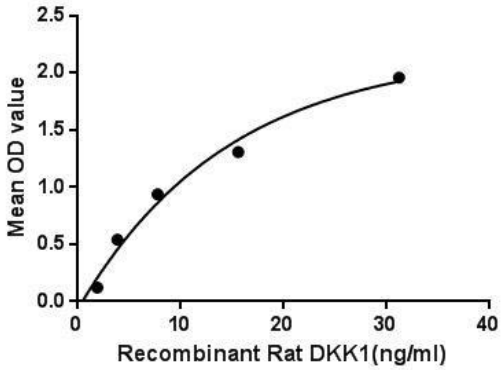

Figure 1. The binding activity of DKK1 with LRP5.

[IDENTIFICATION]

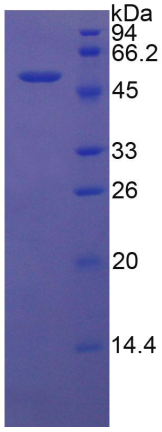

Figure 2. SDS-PAGE

Sample: Active recombinant DKK1, Rat

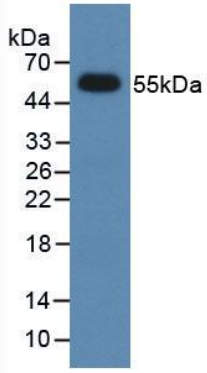

Figure 3. Western Blot

Sample: Recombinant DKK1, Rat;

Antibody: Rabbit Anti-Rat DKK1 Ab (PAA741Ra01)

[IMPORTANT NOTE]

The kit is designed for in vitro and research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.