

APE699Hu01 100µg

Active Sphingosine Kinase 2 (SPHK2)

Organism Species: *Homo sapiens* (Human)

Instruction manual

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Met1~Asn188

Tags: N-terminal His-tag

Purity: >90%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 0.01% Sarcosyl, 5%Trehalose .

Original Concentration: 200µg/mL

Applications: Activity Assays.

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

Predicted isoelectric point: 10.1

Predicted Molecular Mass: 24.3kDa

Accurate Molecular Mass: 27/22kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) 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 37°C 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]

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MNGHLEAEEQ QDQRPDQELT GSWGHGPRST LVRAKAMAPP PPPLAASTPL
LHGEFGSYPA RGPFRFALTLT SQALHIQRLR PKPEARPRGG LVPLAEVSGC
CTLRSRSPSD SAAAYFCIYTY PRGRRGARRR ATRTFRADGA ATYEENRAEA
QRWATALTCL LRGLPLPGDG EITPDLLPRP PRLLLLVN
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[ACTIVITY]

Sphingosine Kinase 2 (SPHK2) is an enzyme that phosphorylates sphingosine to produce sphingosine-1-phosphate (S1P), a bioactive lipid mediator involved in cell proliferation, survival, and immune regulation. Unlike its isoform SPHK1, which is primarily cytosolic, SPHK2 localizes to the nucleus, mitochondria, and endoplasmic reticulum, suggesting distinct roles in cellular processes. SPHK2 regulates key pathways such as apoptosis, autophagy, and epigenetic modulation by influencing histone acetylation. It has been implicated in diseases like cancer, neurodegeneration, and metabolic disorders, where its activity can either promote or suppress pathology depending on context. Besides, Sphingosine 1 Phosphate Lyase 1 (SGPL1) has been identified as an interactor of SPHK2, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human SPHK2 and recombinant human SGPL1. Briefly, SPHK2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to SGPL1-coated microtiter wells and incubated for 1h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-SPHK2 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37 °C, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally,

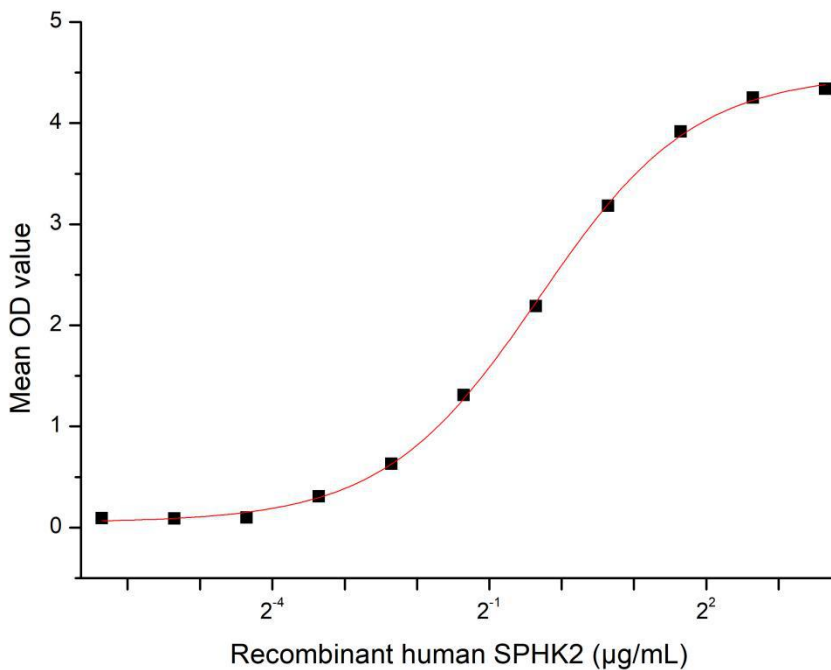


Figure 1. The binding activity of recombinant human SPHK2 and recombinant human SGPL1

[IDENTIFICATION]

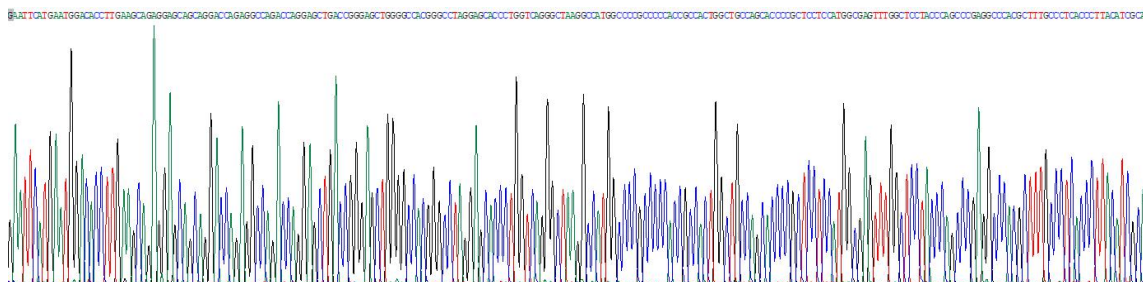


Figure 2. Gene Sequencing (extract)

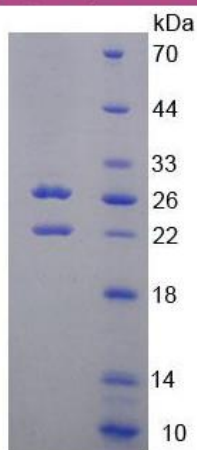


Figure 3. SDS-PAGE

Sample: Active recombinant SPHK2, Human

[IMPORTANT NOTE]

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