APF879Ra01 100μg
Active Secreted Frizzled Related Protein 2 (SFRP2)
Organism Species: *Rattus norvegicus (Rat)*
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: Leu25~Cys295
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: 7.2
Predicted Molecular Mass: 34.8kDa
Accurate Molecular Mass: 35kDa 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 2-8ºC for one month.
Aliquot and store at -80ºC 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]

LFLFGQPDFSYKRSNCKPIPANLQLCHGIEYQNMRLPNLLGHETMKEVLEQAGAWIPLVMKQCHPDTKK
FLCSLFAPVCLDDLDETIQPCHSLCVQVKDRCAPVMSAFGFPWPDMLECDRFPQDNDLCIPLASSDHLL
PPTEEAPKVCEACKTKNEDDNDIMETLCKNDFALKIKVKEITYINRDTKIILETKSKTIYKLNGVSDRD
LKKSVLWLKDSLQCTCEEMNDINAPYLVMGQKQGGELVITSVKRWQKGQREFKRISRSIRKLQC

[ACTIVITY]

Secreted Frizzled Related Protein 2 (SFRP2) is a key modulator of the Wnt signaling pathway. It harbors a frizzled-like cysteine-rich domain (CRD) that shares homology with the Wnt-binding region of Frizzled receptors, and a C-terminal netrin domain. As a core member of the SFRP family, SFRP2 localizes in the extracellular space and exerts dual regulatory effects on Wnt signaling: it acts as an antagonist of canonical Wnt signaling while activating the noncanonical Wnt/Ca^{2+} pathway, participating in embryonic development, angiogenesis, tissue regeneration and tumorigenesis. It is widely expressed in the alimentary system, brain, embryo mesenchyme and other tissues, and its abnormal expression is associated with cardiovascular diseases and various cancers. SFRP2 binds directly to WNT2 via its CRD domain, blocking WNT2's interaction with Frizzled receptors to inhibit canonical Wnt signaling.Thus a functional ELISA assay was conducted to detect the interaction of recombinant rat SFRP2 and recombinant human WNT2. Briefly, SFRP2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to WNT2-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-SFRP2 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated

15-25 minutes at 37℃. Finally, add 50 µl stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant rat SFRP2 and recombinant human WNT2 was shown in Figure 1, the EC50 for this effect is 0.181 µg/ml.

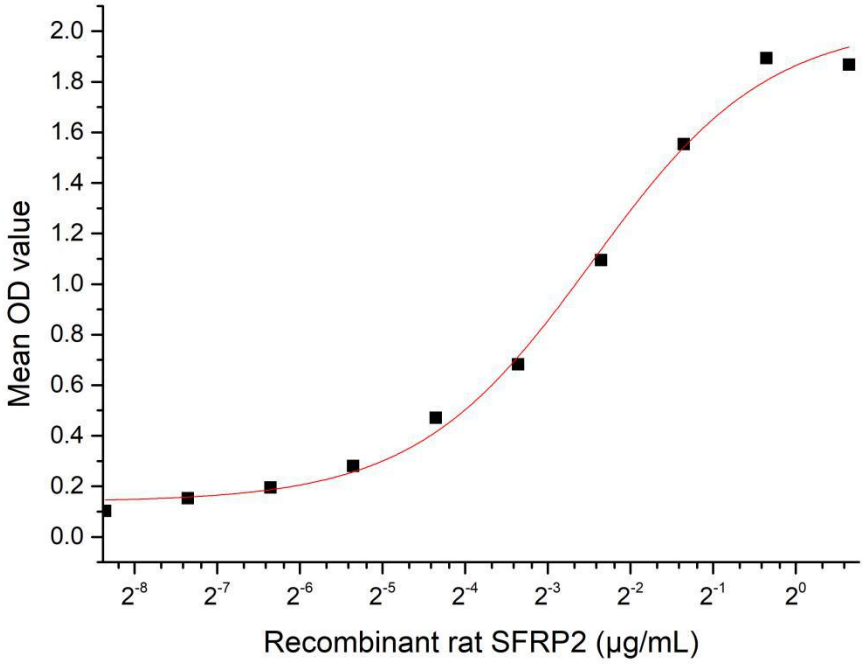


Figure 1. The binding activity of recombinant rat SFRP2 and human WNT2

[IDENTIFICATION]

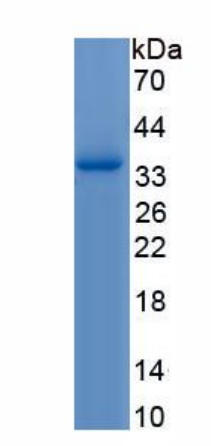


Figure 2. SDS-PAGE

Sample: Active recombinant SFRP2, Rat

[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.