

APA121Hu61 100µg
Active Stem Cell Factor Receptor (SCFR)
Organism Species: *Homo sapiens (Human)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Eukaryotic expression.

Host: 293F cell

Residues: Gln26~Pro524

Tags: N-terminal His-tag

Purity: >90%

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

Buffer Formulation: PBS, pH7.4, containing 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: 6.4

Predicted Molecular Mass: 57.6kDa

Accurate Molecular Mass: 65kDa as determined by SDS-PAGE reducing conditions.

Phenomenon explanation:

The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[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]

```
QPSVS PGEPSPPSIH PGKSDLIVRV
GDEIRLLCTD PGFVKWTFEI LDETENENKQN EWITEKAEAT NTGKYTCTNK
HGLSNSIYVF VRDPAKLFLV DRSLYGKEDN DTLVRCPLTD PEVTNYSLKG
CQGKPLPKDL RFIPDPKAGI MIKSVKRAYH RLCLHCSVDQ EGKSVLSEKF
ILKVRPAFKA VPVVSVSKAS YLLREGEEFT VTCTIKDVSS SVYSTWKREN
SQTKLQEKYN SWHHGDFNYE RQATLTISSA RVNDSGVFMC YANNTFGSAN
VTTTTLEVVDK GFINIFPMIN TTVFVNDGEN VDLIVEYEAF PKPEHQWIY
MNRTFTDKWE DYPKSENESEN IRYVSELHLT RLKGTEGGTY TFLVSNSDVN
AAIAFNVYVN TKPEILTYDR LVNGMLQCVA AGFPEPTIDW YFCPGTEQRC
SASVLPVDVQ TLNSSGPPFG KLVVQSSIDS SAFKHNGTVE CKAYNDVGKT
SAYFNFAFKG NNKEQIHPHT LFTP
```

[ACTIVITY]

Stem Cell Factor Receptor (SCFR), also known as c-Kit and CD117, is a widely expressed 145 kDa receptor tyrosine kinase. Binding of SCF R to SCF promotes the survival, differentiation, and mobilization of progenitor cells in multiple lineages. Mature human SCFR consists of a 499 amino acid (aa) extracellular domain (ECD) with five tandem immunoglobulin-like domains, a 21 aa transmembrane segment, and a 431 aa cytoplasmic domain with the split tyrosine kinase domain. SCFR is up-regulated on dendritic cells by Th2- or Th17-biasing stimuli, and it is required for subsequent dendritic cell induction of Th2 and Th17 responses. Besides, Epidermal Growth Factor (EGF) has been

identified as an interactor of SCFR, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human SCFR and recombinant rat EGF. Briefly, biotin-linked SCFR were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to EGF-coated microtiter wells and incubated for 1h at 37 $^{\circ}$ C. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 $^{\circ}$ C. Finally, add 50 μ l stop solution to the wells and read at 450 nm immediately. The binding activity of recombinant human SCFR and recombinant rat EGF was shown in Figure 1, the EC50 for this effect is 0.09 μ g/mL.

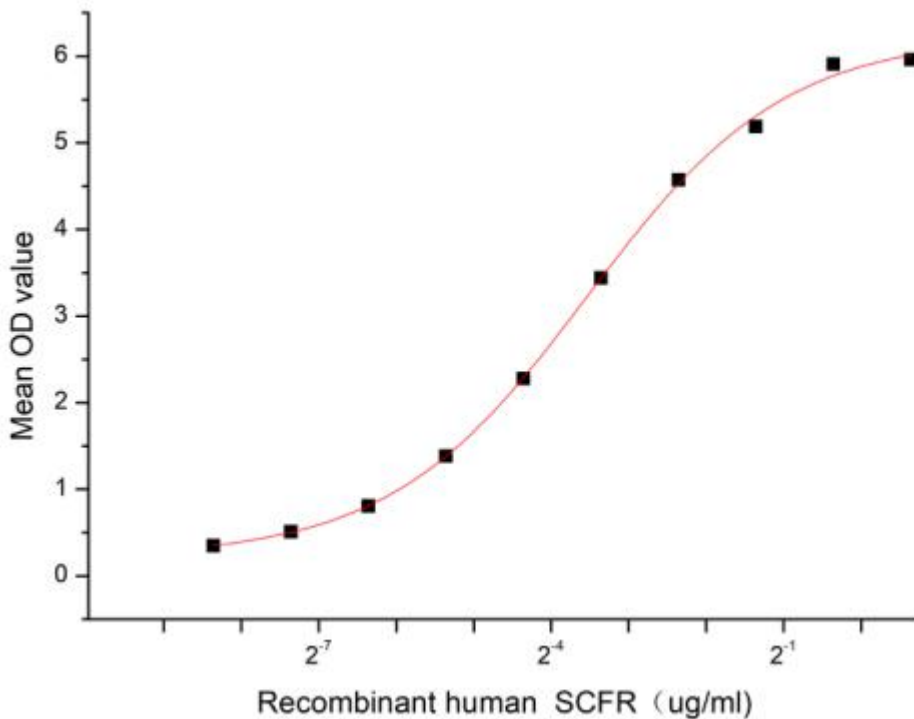


Figure 1. The binding activity of recombinant human SCFR and recombinant rat EGF

[IDENTIFICATION]

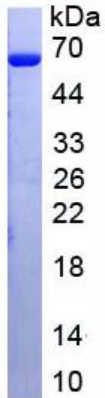


Figure 2. SDS-PAGE

Sample: Active recombinant SCFR, 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.