

APB166Hu63 100µg
Active VGF Nerve Growth Factor Inducible (VGF)
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: Eukaryotic expression.

Host: 293F cell

Residues: Ala23~Pro615

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 .

Original Concentration: 200µg/mL

Applications: Cell culture; Activity Assays.

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

Predicted isoelectric point: 4.4

Predicted Molecular Mass: 66.6kDa

Accurate Molecular Mass: 85kDa 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]

APPGRPEAQPPPLSSEHKPEVAGDAVPGPKDGSAPVVRGARNSEPQDEGELFQGVDPRALA
AVLLQALDRPASPPAPSGSQGPEEEAAEALLTETVRSQTHSLPAPESPEPAAPPRPQTPENG
PEASDPSEEEALASLLQELRDFSPSSAKRQQETAAAETETRHTLTRVNLESPGPERVWRAS
WGEFQARVPERAPLPPAPSQFQARMPSGGLPETHKFGEGVSSPKTHLGEALAPLSKAYQ
GVAAPFPKARRPESALLGGSEAGERLLQQGLAQVEAGRRQAEATRQAAAQEERLADLASD
LLLQYLLQGGRQQRGLGGRGLQEAAEERESAREEEAEQERRGGEERVGEEDEEEAAEAE
EAEAEARARQNALLFAEEEDGEAGAEDKRSQEETPGHRRKEAEGTEEGGEEEDDEEMDPQ
TIDSLIELSTKLHLPADDVVSIIIEVEEKRRKKNAPPEPVPPPRAAPATHVRSQPPPPAPAP
ARDELDPDWEVLPPWDREEDVYPPGPYHPFPNYIRPRTLQPPSALRRRHYYHALPPSRHY
PGREAQARRAQEEAEAEERRLQEQEELNYIEHVLLRRP

[ACTIVITY]

VGF (nerve growth factor inducible) is a secretory polypeptide precursor belonging to the granin/secretogranin family, selectively expressed in neuronal and neuroendocrine cells. It promotes cell proliferation, survival, and migration, while inhibiting apoptosis in neurons and multiple cancer cell types. VGF drives oncogenic signaling, enhances therapy resistance, and facilitates epithelial – mesenchymal transition. Its proteolytic products mediate neurogenesis, energy homeostasis, and tumor progression, positioning VGF as a key regulator in neural

function and cancer pathogenesis. To test the effect of VGF on cell apoptosis, A549 cells were seeded into triplicate wells of 96-well plates and allowed to attach, replaced with various concentrations of recombinant human VGF. After incubated for 48 hours, cells were observed by inverted microscope and cell proliferation was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10 μ l of CCK-8 solution was added to each well of the plate, then the absorbance at 450 nm was measured using a microplate reader after incubating the plate for 1-4 hours at 37 $^{\circ}$ C. Cell viability was assessed by CCK-8 (Cell Counting Kit-8) assay after incubation with recombinant human VGF for 48 hours. The result was shown in Figure 1. It was obvious that VGF significantly decreased cell viability of A549 cells. The ED₅₀ of recombinant human VGF is 230 ng/mL.

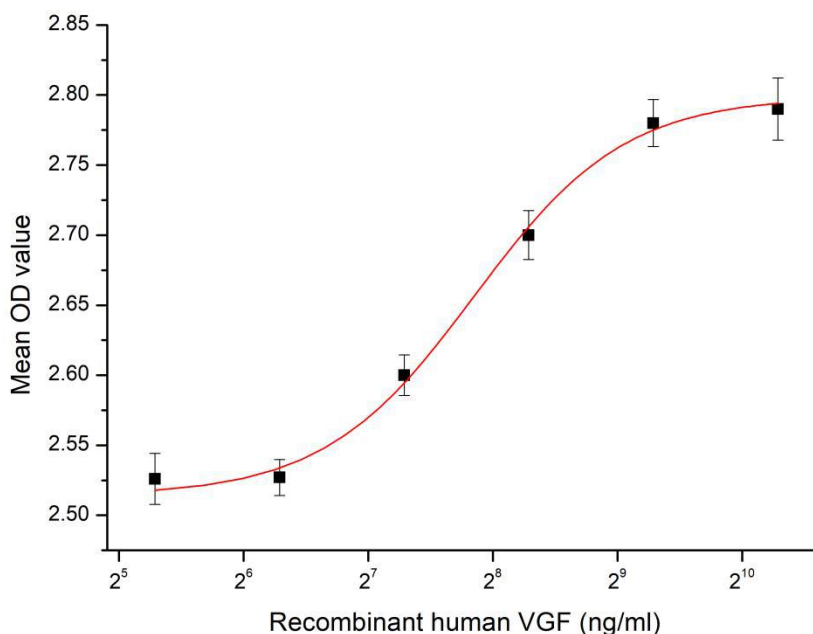


Figure 1. Cell apoptosis of A549 cells after stimulated with recombinant human VGF.

[IDENTIFICATION]

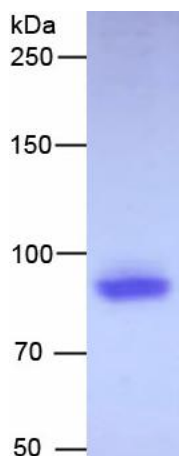


Figure 2. SDS-PAGE

Sample: Active recombinant VGF, 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.