

APD381Hu01 100µg
Active Glia Derived Nexin (GDN)
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: Ser20~Pro398

Tags: N-terminal His-tag

Purity: >95%

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: 9.4

Predicted Molecular Mass: 45.7kDa

Accurate Molecular Mass: 44kDa 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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S HFNPLSLEEL GSNTGIQVFN QIVKSRPHDN
IVISPHGIAS VLGMLQLGAD GRKKQLAMV MRYGVNGVGK ILKKINKAIV
SKKNKDIVTV ANAVFVKNAS EIEVPFVTRN KDFVQCEVRN VNFEDPASAC
DSINAWKNE TRDMIDNLLS PDLIDGVLTR LVLVNAVYFK GLWKS RFQPE
NTKKRTFVAA DGKSYQV PML AQLSVFRCGS TSAPNDLWYN FIELPYHGES
ISMLIALPTE SSTPLSAIIP HISTKTIDSW MSIMVPKRVQ VILPKFTAVA
QTDLKEPLKV LGITDMFDSS KANFAKITTG SENLHVSHIL QKAKIEVSED
GTKASAATTA ILIARSSPPW FIVDRPFLFF IRHNPTGAVL FMGQINKP
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[ACTIVITY]

Glia-Derived Nexin (GDN), also known as protease nexin-1 (PN-1), is a serine protease inhibitor secreted by glial cells. It belongs to the serpin superfamily and plays a crucial role in regulating extracellular proteolysis, particularly by inhibiting thrombin and plasminogen activators. GDN is involved in neurite outgrowth, synaptic plasticity, and tissue repair, making it important in nervous system development and neuroprotection. Studies suggest its role in preventing excessive proteolytic activity that could damage neural networks. The activity of recombinant human GDN was measured by its ability to inhibit trypsin cleavage of a fluorogenic peptide substrate Mca-RPKPVE-Nval-WRK(Dnp)-NH₂ in the assay buffer 50 mM Tris, 10 mM CaCl₂, 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5. Trypsin was diluted to 50 ug/ml in the assay buffer and 25 ul different concentrations of recombinant human GDN (MW: 45.7 KD) was incubated with 25 ul diluted trypsin at 37 °C for 30 minutes. Loading 50 µL of the incubated mixtures which were diluted five-fold in assay buffer into empty wells of a plate, and start the reaction by adding 50 µL of 20 µM substrate. Include a substrate blank containing

50 μ L of assay buffer and 50 μ L of 20 μ M substrate. Then read at excitation and emission wavelengths of 320 nm and 405 nm, respectively, in kinetic mode for 5 minutes. The result was shown in Figure 1 and it was obvious that recombinant human GDN significantly decreased trypsin activity. The inhibition IC₅₀ was <42 nM.

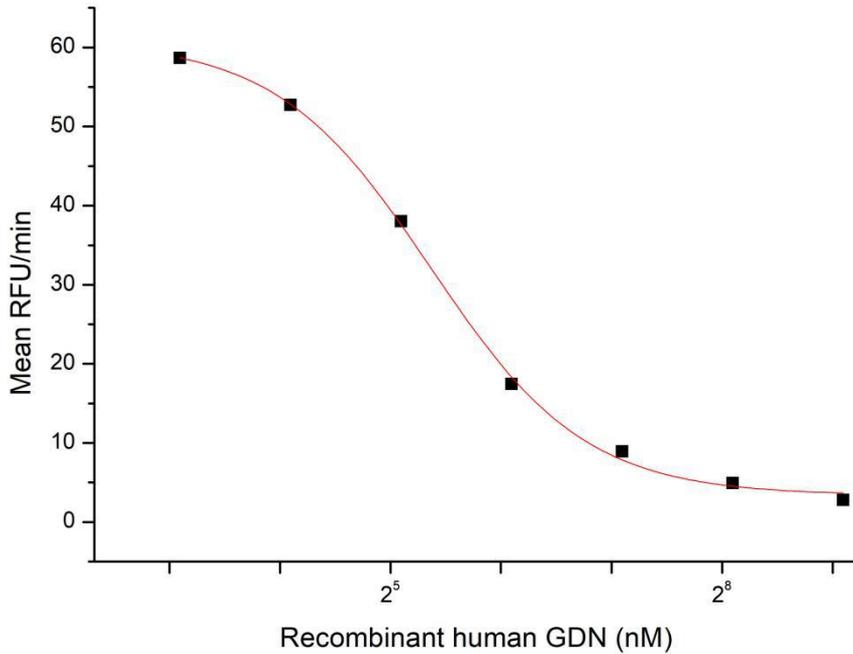


Figure 1. Inhibition of trypsin activity by recombinant human GDN

[IDENTIFICATION]

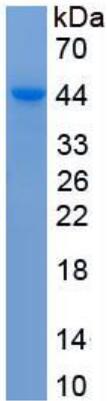


Figure 2. SDS-PAGE

Sample: Active recombinant GDN, 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.