APL575Hu01 100μg
Active Granzyme H (GZMH)
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: Glu19~Leu246
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% SKL, 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: 9.9
Predicted Molecular Mass: 29.1kDa
Accurate Molecular Mass: 29kDa 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]

EE IIGGHEAKPH SRPYMAFVQF LQEKSRKRCG
GILVRKDFVL TAAHCQGSSI NVTLGAHNIK EQERTQQFIP VKRPIPHPAY
NPKNFSNDIM LLQLERKAKW TTAVRPLRLP SSKAQVKPGQ LCSVAGWGYV
SMSTLATTLQ EVLLTVQKDC QCERLFHGNY SRATEICVGD PKKTQTGFKG
DSGGPLVCKD VAQGILSYGN KKGTPPGVYI KVSHFLPWIK RTMKRL

[ACTIVITY]

Granzyme H is a member of the granzyme family of serine proteases found specifically in the cytotoxic granules of cytotoxic T lymphocytes (CTL) and natural killer (NK) cells. Granzyme H ’ s functions are largely unknown. The more abundant expression of Granzyme H than Granzyme B in NK cells suggests that Granzyme H may complement the pro-apoptotic function of Granzyme B in this cell type. Human Granzyme H is synthesized as a precursor (246 residues) with a signal peptide (residues 1-18), a propeptide (residues 19-20) and a mature chain (residues 21-246). The purified recombinant human Granzyme H consists of residues 19 to 246 which activity was measured by its ability to cleaves a thioester substrate Z-Lys-SBzl • HCl. The reaction was performed in 0.05 M Tris, 0.15 M NaCl, 0.01% Triton X-100, pH 8.0 (Assay Buffer), initiated by addition 50 μL of various concentrations of GZMH (diluted by Assay Buffer) to 50 μL of 1.2 mM Substrate and DTNB mixture. The final well serves as a negative control with no GZMH, replaced with 50 μL assay buffer. Incubated at 25℃ for 5min, then read at a wavelength of 405 nm. The specific activity of recombinant human Granzyme H is >300 pmol/min/μg.

Specific Activity (pmol/min/ug)=

$$\frac{\text{Adjusted } V_{max}^{*} \text{ (OD/min) x well volume (L) x } 10^{12} \text{ pmol/mol}}{\text{ext. coeff}^{**} \text{ } (M^{-1}cm^{-1}) \text{ x path corr.}^{***} \text{ (cm) x amount of enzyme (ug)}}$$

*Adjusted for Substrate Blank
**Using the extinction coefficient 13260 $M^{-1}cm^{-1}$
***Using the path correction 0.320 cm

[IDENTIFICATION]

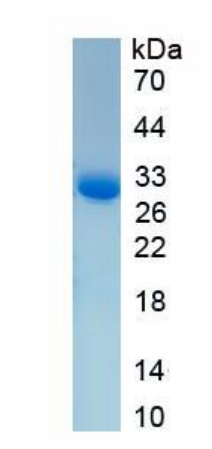

Figure 1. SDS-PAGE

Sample: Active recombinant GZMH, 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.