APA599Hu51 50μg
Active Granzyme A (GZMA)
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: *Yeast*
Residues: Ile29~Val262
Tags: N-terminal His-tag
Purity: >98%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5% Trehalose.
Original Concentration: 50μg/mL
Applications: Cell culture; Activity Assays; In vivo assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 9.2
Predicted Molecular Mass: 28.2kDa
Accurate Molecular Mass: 28kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in ddH_2O to a concentration of 0-0.5 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8^oC for one month.
Aliquot and store at -80^oC 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]

II GGNEVTPHSR PYMVLLSLDR
KTICAGALIA KDWVLTAAHC NLNKRSQVIL GAHSITREEP TKQIMLVKKE
FPYPCYDPAT REGDLKLLQL MEKAKINKYV TILHLPKKGD DVKPGTMCQV
AGWGRTHNSA SWSDTLREVN ITIIDRKVCN DRNHYNFNPV IGMNMVCAGS
LRGGRDSCNG DSGSPLLCEG VFRGVTSFGL ENKCGDPRGP GVYILLSKKH
LNWIIMTIKG AV

[ACTIVITY]

Granzyme A is a member of the granzyme family of the serine proteases found specifically in the cytotoxic granules of cytotoxic T lymphocytes (CTL) and natural killer (NK) cells. Granzyme A is the most abundant protease in CTL and NK cells. It induces caspase-independent cell death when introduced into target cells by perforin (1). Human granzyme A is synthesized as a precursor (262 residues) with a signal peptide (residues 1-26), a propeptide (residues 27-28) and a mature chain (residues 29-262) (2). The purified recombinant human Granzyme A consists of residues 29 to 262 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 GZMA (dilute by Assay Buffer) to 50 µL of 1.2 mM Substrate and DTNB mixture. The final well serves as a negative control with no GZMA, replace with 50µL assay buffer. Incubated at 25℃ for 5min, then read at a wavelength of 405 nm. The specific activity of recombinant human Granzyme A is 912 pmol/min/µg.

Specific Activity (pmol/min/ug)=

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

*Adjusted for Substrate Blank

**Using the extinction coefficient 13800 $M^{-1}cm^{-1}$

***Using the path correction 0.320 cm

[IDENTIFICATION]

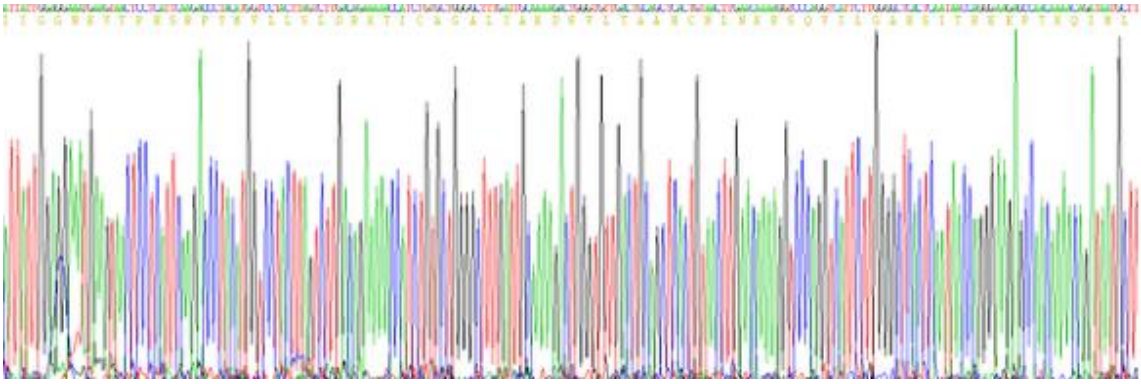

Figure 1. Gene Sequencing (extract)

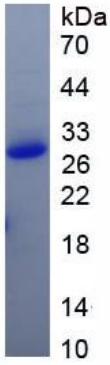

Figure 2. SDS-PAGE

Sample: Active recombinant GZMA, Human

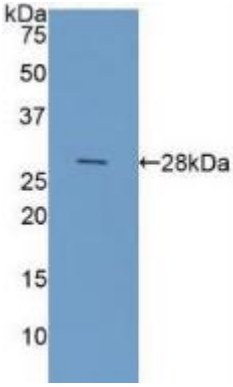

Figure 3. Western Blot

Sample: Recombinant GZMA, Human;

Antibody: Rabbit Anti-Human GZMA Ab (PAA599Hu05)

[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.