

Endonuclease G, Mitochondrial (ENDOG) Active Protein | ENDOG active protein

Active Endonuclease G, Mitochondrial (ENDOG)

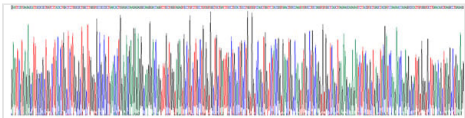
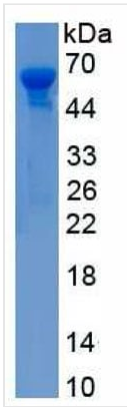
CATALOG # AAA148142	HOST E. coli	REACTIVITY Rattus norvegicus (Rat)	APPLICATIONS Activity Assay
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PRODUCT SYNONYMS

Endonuclease G; Mitochondrial (ENDOG); Active Endonuclease G; ENDO-G; ENDOG active protein

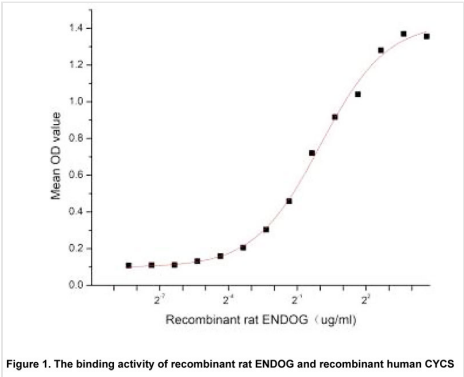
PRODUCT SPECIFICATIONS

Host	E. coli
Reactivity	Rattus norvegicus (Rat)
Purity/Purification	>90%
Form/Format	PBS, pH7.4, containing 0.01% Sarcosyl, 5% Trehalose.
Concentration	Original Concentration: 350ug/mL (varies by lot)
Applicable Applications for ENDOG active protein	Activity Assay
Source	Prokaryotic expression
Residues	Met1~Lys294
Tags	N-terminal His and GST Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method).
Predicted isoelectric point	9.8
Usage	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
Preparation and Storage	Storage: Avoid repeated freeze/thaw cycles. Store at 2-8 degree C for one month. Aliquot and store at -80 degree 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 degree 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.



Gene Sequencing
Gene Sequencing (extract)

SDS_PAGE
Sample: Active recombinant ENDOG, Rat



Sequence

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MRALRAGLTL ALGAGLGAAA EHMRRREGKG PGLLRVPVL PVVAADLPAL
PGGPAGSTGE LAKYGLPGVA QLSRESYVL SYDPRTRGAL WVLEQLRPER
LRGDDRRAC DFHEDDSVHA YHRATNADYR GSGFDRGHLA AAANHRWSQR
AMDDTFYLSN VAPQVPHLNQ HAWNLEKYS RSLTRTYQNV YVCTGPLFLP
RTEADGKSYV KYQVIGKNHV AVPTHFFKVL ILEAASQIE LRSYVMPNAP
VDETLPLERF LVPIESIERA SGLLFVFNIL ARAGNLKAIT AGSK
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Bioactivity

Endonuclease G, Mitochondrial (ENDOG) is a conserved nuclease encoded by nuclear DNA and localized in the mitochondrial intermembrane space. It plays dual roles in apoptosis and mitochondrial genome maintenance. During programmed cell death, ENDOG is released into the cytosol, cleaving nuclear and mitochondrial DNA at specific sites to facilitate apoptotic degradation. Structurally, it functions as a homodimer with Mg²⁺-dependent endonuclease activity. Beyond apoptosis, ENDOG participates in mitochondrial DNA replication, repair, and maternal genome processing during embryogenesis. Notably, ENDOG interacts with cytochrome c (CYCS) to synergistically amplify apoptosis. This complex enhances nucleolytic DNA degradation and modulates the mitochondrial permeability transition pore (MPTP), further promoting cell death. Thus a functional ELISA assay was conducted to detect the interaction of recombinant rat ENDOG and recombinant human CYCS. Briefly, ENDOG was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul were then transferred to CYCS-coated microtiter wells and incubated for 1h at 37 Degree C. Wells were washed with PBST and incubated for 1h with anti-ENDOG pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37 Degree C, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 Degree C. Finally, add 50 uL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant rat ENDOG and recombinant human CYCS was shown in Figure 1, the EC₅₀ for this effect is 1.01ug/mL.

ADDITIONAL INFORMATION

Product Categories/Family for ENDOG active protein	Enzyme & Kinase; Developmental science
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NCBI AND UNIPROT INFORMATION

NCBI GI #	77917570
NCBI GeneID	362100
NCBI Accession #	NP_001030110.1

NCBI GenBank Nucleotide #	NM_001034938.1
UniProt Accession #	Q3V5X8
Molecular Weight	Predicted Molecular Mass: 62.3kDa Accurate Molecular Mass: 62kDa as determined by SDS-PAGE reducing conditions.
NCBI Official Full Name	endonuclease G, mitochondrial
NCBI Official Synonym Full Names	endonuclease G
NCBI Official Symbol	Endog
NCBI Protein Information	endonuclease G, mitochondrial
UniProt Protein Name	Endonuclease G
UniProt Gene Name	Endog

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-rat-rattus-rattus-norvegicus-active-protein/endonuclease-g-mitochondrial-endog/148142>