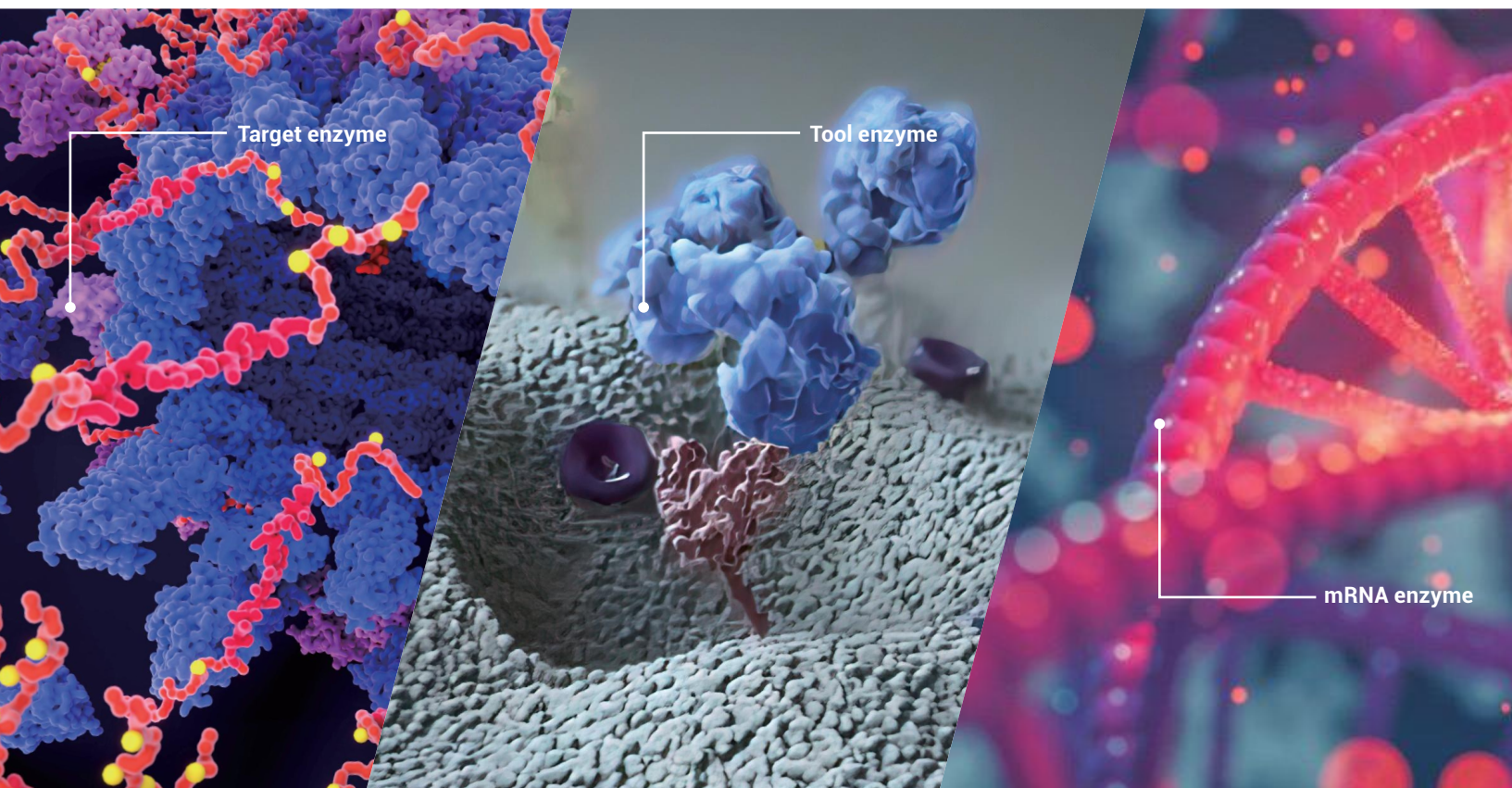



High-Quality Enzymes to Facilitate Drug Development



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Enzymes are catalysts found throughout living organisms, playing a crucial role in regulating chemical reactions. Competitive inhibition occurs when similar molecules bind to the enzyme's active site, preventing the original substrate from binding. Non-competitive inhibition happens when inhibitors attach to locations outside the active site.

Enzymes are essential in biological processes and diseases. Deficiencies in specific enzymes cause inherited conditions like albinism and phenylketonuria. This has made enzymes attractive targets for pharmacological interventions. Currently, over 20% of drugs target enzymes, particularly enzyme inhibitors, which are vital in clinical applications. Enzyme inhibitors are widely used to treat infectious diseases, cancer, inflammation, cardiovascular disorders, and metabolic conditions. Moreover, with advancements in antibody drugs, gene therapy, and cell therapy, certain tool enzymes have gained increasing significance in research and development.

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GENIUS™ Nuclease

Cas Enzyme

Enzymes for In-Depth Antibody Characterization

Cathepsin B

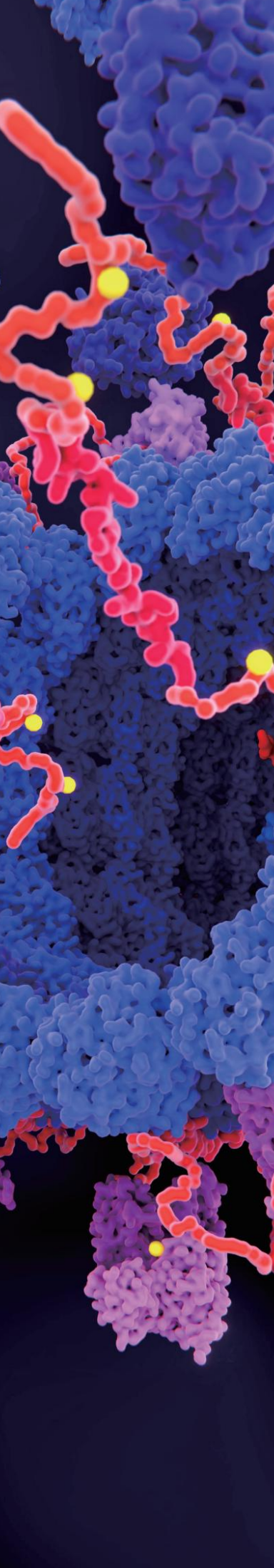
25

mRNA Enzyme

- Product Features
- Product List
- Assay Data

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Target Enzyme

Enzymes are catalysts in organisms that regulate chemical reactions without undergoing changes themselves. They are important biological targets for drug development, offering unique opportunities for drug design. Enzyme inhibitors play a crucial role in developing oral therapeutic agents used in clinical practice.

We offers a range of target enzyme products for drug development. These include targets in adenosine pathways, matrix metalloproteinases, lysosomal proteases, and kinases. These products support the development of drugs and therapies targeting these enzymes.

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Product Features

- Proteins with multiple species, including human, mouse, cynomolgus, rabbit, and canine, are suitable for cross-species experiments.
- Verified high purity: more than 95% as verified by SDS-PAGE; more than 90% as verified by SEC-MALS.
- Enhanced enzymatic activity for improved substrate catalysis and drug screening.
- Reliable and reproducible results with consistent batch-to-batch performance.

Product Index

> The critical enzyme for adenosinergic pathways

CD39^{HOT}

CD73^{HOT}

CD39L1/ENTPD2

> Protease

Matrix Metalloproteinases

MMP-1

MMP-2

MMP-3

MMP-7

MMP-8

MMP-9

MMP-10

EMMPRIN(CD147)

Cathepsins

Cathepsin S

Cathepsin B^{HOT}

Cathepsin L

Coagulation Factors

Coagulation Factor III

Coagulation factor VII

Coagulation factor IX

Coagulation factor X

Coagulation factor XI

ADAM Proteases

ADAM8

ADAM9

ADAM17

Others

BACE-1

CD28H

DPPIV^{HOT}

ENPP-2

ENPP-3

FAP

LOXL2

Neprilysin

PLAU

PSMA

PSCA

RENIN

> Kinase

Tyrosine Kinase

JAK1

PTK7

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Receptor Tyrosine Kinase				
AXL	EGFR	EGFRvIII	EphA2	EphA4
EphA5	EphA10	EphB4	FGF R1	FGF R2 (IIIb)
FGF R2 (IIIc)	FGF R3 (IIIb)	FGF R3 (IIIc)	FGF R4	FIt-3
Her2	PDGF R alpha	PDGF R beta	MERTK	TrkA
TrkB	TYRO3			

Serine/Threonine-Protein Kinase				
Akt1	ALK-1	ALK-7	MASP3	MMP-8

> Alkaline phosphatase-like enzyme

ALPG ^{HOT}	ALPI	ALPL	ALPP
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> Others

Transglutaminases	Protein Arginine Deiminase	PADI2	PADI3	PADI6	
	Ubiquitin Related Proteins	CBLB	Elongin B & Elongin C & VHL	UBE1	UCH-L1
		UCH-L3	RNF43		
Oxidoreductases		IDH1	TDO2	Xanthine dehydrogenase	
Hydrolases		Angiogenin	beta-Galactosidase-1	beta-Glucuronidase/GUSB	IDE
		Glucosylceramidase	Matriptase	PH20	Plasma Kallikrein/KLKB1
		Prostatic Acid Phosphatase			
Phosphatase		PTPRD			
Carbonic Anhydrase		Carbonic Anhydrase II	Carbonic Anhydrase IX	Carbonic Anhydrase XII	
Others		Plexin B1	Plexin B2	GAS6	

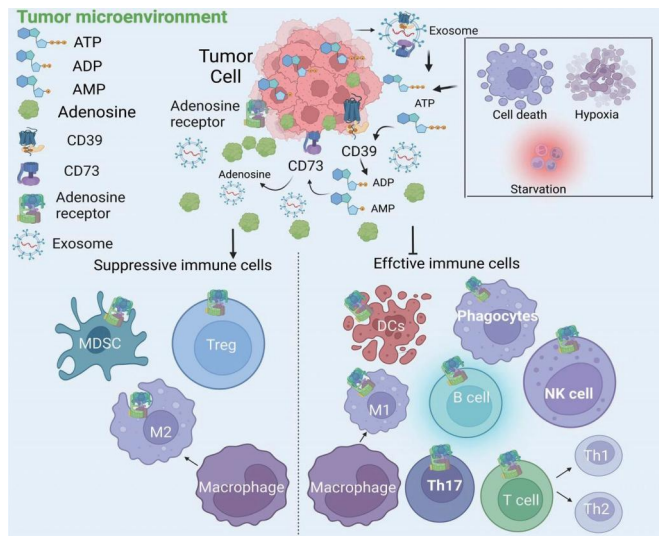
Featured Products

I The critical targets for adenosine pathways (CD39/CD73)

The tumor microenvironment (TME) is a critical factor in tumor immunotherapy. The ATP-adenosine pathway functions as a key modulator of innate and adaptive immunity within the tumour microenvironment.

CD39 and CD73, two of the Ectonucleotidases, are involved in converting ATP into extracellular adenosine. CD39 (ectonucleoside triphosphate diphosphohydrolase-1, ENTPD1) converts ATP and ADP to AMP. and CD73, also known as ecto-5'-nucleotidase (NT5E), exists as a **homodimeric enzyme** on the cell surface and can also be present in a soluble form in the extracellular space. It converts AMP into adenosine (ADO).

ADO is a key metabolite within the TME that accumulates and inhibits the function of important immune cells, including T cells and NK cells, leading to an environment conducive to tumor growth. Consequently, multiple clinical strategies are being explored to target this pathway for the treatment of cancer.



CD39 and CD73 regulate the metabolism of ATP and adenosine in the extracellular environment.¹

► Product Information

We provide CD39 and CD73 protein products with high purity and verified bioactivity. In addition to our recombinant protein offerings, we also provide pre-magnetic beads that are coupled with biotinylated CD73 protein. These pre-magnetic beads allow for various applications, such as immunocapture, biopanning, sample/cell enrichment, and more. (Please refer to page 10 for a comprehensive product list.)

► Applications

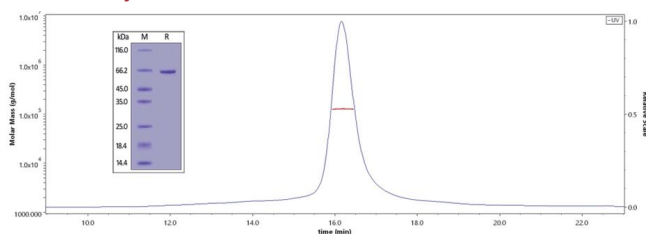
- Immunization
- Potency testing of serum
- Antibody screening
- Drug hit-lead discovery

► Product Features

- Homodimer structure and high purity verified by SEC-MALS
- QC -verified High Enzymatic Activity
- CD39 protein is used to screen and validate specific mutations, including popular mutation sites such as Q96A, N99A, E143A, and R147E.
- High bioactivity verified by ELISA/SPR/BLI

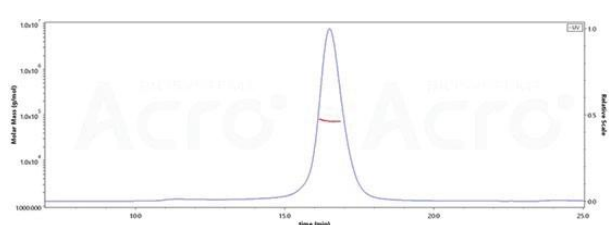
► Assay Data

· Homodimer structure and high purity (>90%) verified by SEC-MALS



The purity of Canine CD73, His Tag (Cat. No. CD3-C52H5) is more than 90% and the molecular weight of this protein is around 115-141 kDa verified by SEC-MALS.

· High purity (>95%) verified by SEC-MALS



The purity of Cynomolgus CD39, His Tag (Cat. No. CD9-C52H3) is more than 95% and the molecular weight of this protein is around 62-84 kDa verified by SEC-MALS.

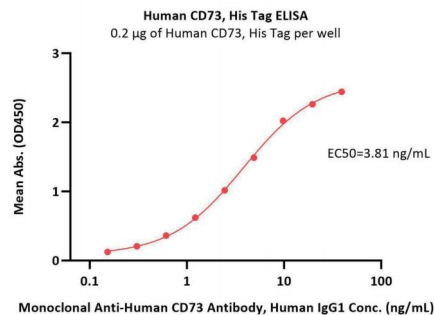
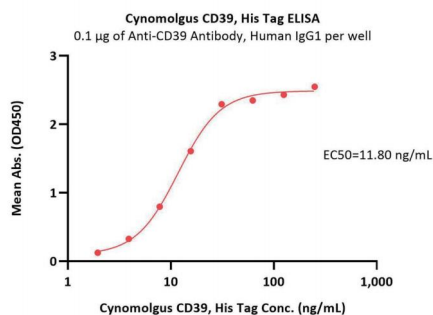
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· High enzymatic activity

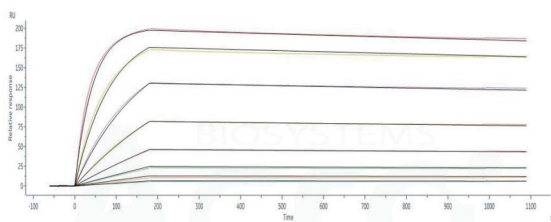
Product	Human CD39 / ENTPD1 Protein, His Tag		Human CD73 / NT5E Protein, His Tag (HPLC-verified)	
Substrate	Adenosine-5'- triphosphate (ATP)		Adenosine-5'- monophosphate (AMP)	
Enzyme Activity (pmol/min/µg)	ACRO product (Cat.No. <i>CD9-H52H4</i>)	The product of another vendor	ACRO product (Cat.No. <i>CD3-H52H7</i>)	The product of another vendor
	> 6,000	> 5,000	>100,000	>15,000
Product	Mouse CD39 / ENTPD2 Protein, His Tag (MALS verified)		Mouse CD73 / NT5E Protein, His Tag (active enzyme)	
Substrate	Adenosine-5'- triphosphate (ATP)		Adenosine-5'- monophosphate (AMP)	
Enzyme Activity (pmol/min/µg)	ACRO product (Cat.No. <i>CD9-M52H3</i>)	The product of another vendor	ACRO product (Cat.No. <i>CD3-M52H9</i>)	The product of another vendor
	> 25,000	>25,000	>200,000	>20,000
Product	Cynomolgus CD39 / ENTPD1 Protein, His Tag (MALS verified) (active enzyme)		Cynomolgus CD73 Protein, His Tag (active enzyme)	
Substrate	Adenosine-5'- triphosphate (ATP)		Adenosine-5'- monophosphate (AMP)	
Enzyme Activity (pmol/min/µg)	ACRO product (Cat.No. <i>CD9-C52H3</i>)	The product of another vendor	ACRO product (Cat.No. <i>CD3-C52H9</i>)	The product of another vendor
	> 15,000	>5,000	>50,000	>20,000

· High bioactivity verified by ELISA/SPR/BLI

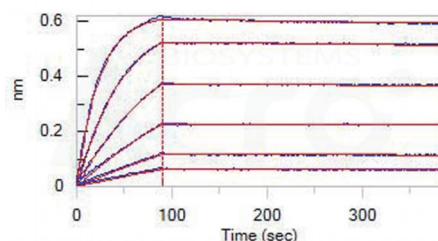


Immobilized Anti-CD39 Antibody, Human IgG1 at 1 µg/mL (100 µL/well) can bind Cynomolgus CD39, His Tag (Cat. No. *CD9-C52H3*) with a linear range of 2-31 ng/mL (QC tested).

Immobilized Human CD73 Protein, His Tag (Cat. No. *CD3-H52H7*) at 2 µg/mL (100 µL/well) can bind Monoclonal Anti-Human CD73 Antibody, Human IgG1 with a linear range of 0.15-5 ng/mL (Routinely tested).



Anti-CD73 antibody (Human IgG1) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind Human CD73 Protein, His Tag (Cat. No. *CD3-H52H7*) with an affinity constant of 0.164 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).



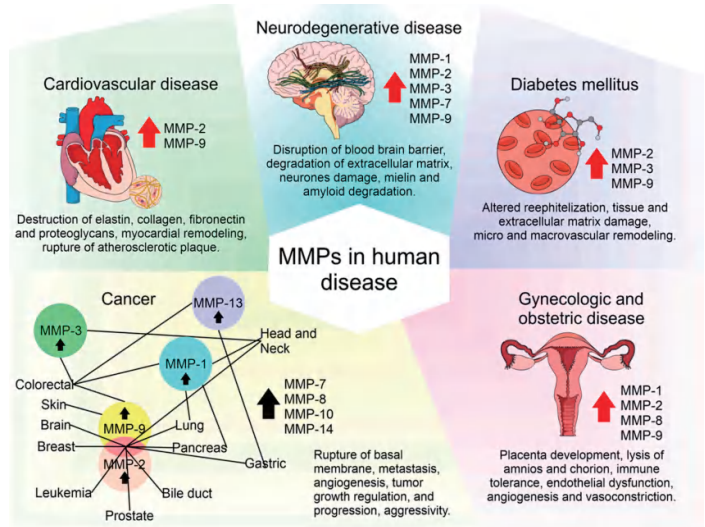
Immobilized Human CD73 Protein, His Tag (Cat. No. *CD3-H52H7*) at 2 µg/mL (100 µL/well) can bind Monoclonal Anti-Human CD73 Antibody, Human IgG1 with a linear range of 0.15-5 ng/mL (Routinely tested).

Matrix Metalloproteinases, MMPs

Matrix metalloproteinases (MMPs) are a family of zinc-dependent endopeptidases that play a significant role in degrading various substrates within the cell and in the extracellular matrix. This includes substrates such as:

- Myelin and other extracellular matrix proteins.
- Cytokines & other growth factors
- Cell adhesion-associated molecules

As such, MMPs are an integral part of enabling cell migration, playing a role in physiological processes including ECM metabolism, cell migration, tissue repair, tissue remodeling, and many others. Different MMPs are expressed in different tissue types, with aberrant expression closely associated with the onset of diseases, including inflammatory, cardiovascular, and cancer diseases.



The role of different matrix metalloproteinases in human diseases ²

Product Information

We now offer a wide range of highly active recombinant MMP proteins, including MMP-1, MMP-2, MMP-3, MMP-7, MMP-8, MMP-9, MMP-10, and more, to facilitate research on related pathological mechanisms and drug development studies. (For a detailed product list, please refer to page 10.)

Applications

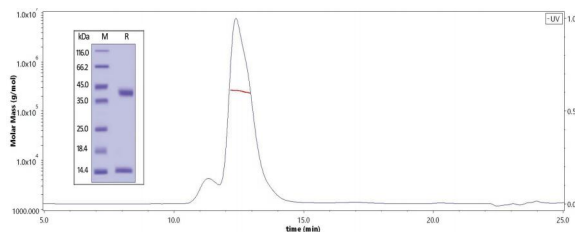
- Immunization
- Antibody screening
- Functional studies
- Drug hit-lead discovery
- Enzyme research

Product Features

- High purity (>90%)
- QC -verified High Enzymatic Activity
- QC -verified batch-to-batch consistency

Assay Data

- Uniform structure and high purity (>90%) verified by SEC-MALS



The purity of Human MMP-9, His Tag (Cat. No. MM9-H5229) is more than 90% and the molecular weight of this protein is around 50-70 kDa verified by SEC-MALS. The purity of the protein is greater than 95% verified by SDS-PAGE.

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· High enzymatic activity

Cat.No.	Human MMP-9 Protein, His Tag (active enzyme) (MALS verified)	
Substrate	Mca-PLGL-Dpa-AR-NH2	
Enzyme Activity (pmol/min/μg)	ACRO product (Cat.No. <i>MM9-H5229</i>)	Competitor R
	>3,000(QC tested)	>1,300

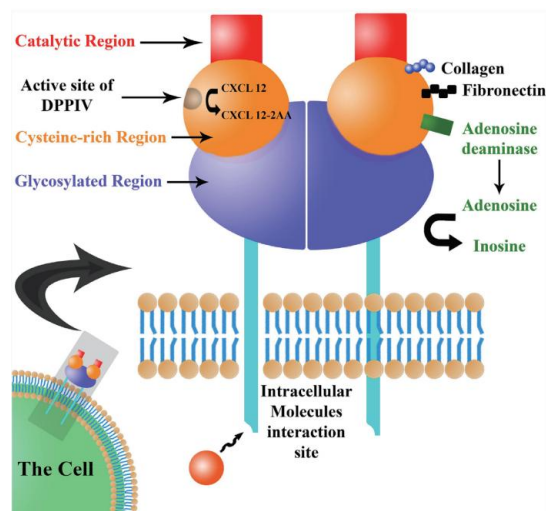
Cat.No.	Human MMP-7 / PUMP1 Protein, His Tag (active enzyme)	
Substrate	Mca-PLGL-Dpa-AR-NH2	
Enzyme Activity (pmol/min/μg)	ACRO product (Cat.No. <i>MM7-H5249</i>)	Competitor R
	>600 (QC tested)	>600

Cat.No.	Human MMP-3 Protein, His Tag (active enzyme, MALS verified)	
Substrate	Mca-RPKPVE-Nval-WRK(Dnp)-NH2	
Enzyme Activity (pmol/min/μg)	ACRO product (Cat.No. <i>MM3-H52H3</i>)	Competitor R
	>422(QC tested)	>150

DPPIV

Dipeptidyl peptidase-4 (DPP4), also known as CD26, is an endogenous membrane glycoprotein and serine exopeptidase involved in the cleavage of X-proline dipeptides from the N-terminus of peptides. Its functions extend to T cell activation, intracellular signaling, apoptosis, and tumor biology. DPP4 exhibits specific binding to a wide range of substrates, including growth factors, chemokines, neuropeptides, and more. Notably, DPP4 plays a crucial role in glucose metabolism by cleaving gut-derived insulinotropic peptides like glucose-dependent insulinotropic polypeptide (GIP) and glucagon-like peptide-1 (GLP-1).

In the context of coronaviruses, receptors play a vital role in determining host tropism and pathogenicity. For instance, MERS-CoV predominantly exploits DPP4 as its receptor for cellular entry. Moreover, DPP4 has displayed a notable affinity for the receptor-binding domain (RBD) of the SARS-CoV-2 spike protein, indicating its potential as a candidate binding target or auxiliary receptor for SARS-CoV-2.



Schematic Diagram of CD26/DPPIV Dimer³

▶ Product Information

We have developed a series of dimeric DPPIV proteins with high-purity, multi-species (Human/Cynomolgus), multi-tag (His/Fc/Avi/tag free). These protein products have been validated for their dimeric structure through SEC-MALS. (For a detailed product list, please refer to page 12.)

▶ Applications

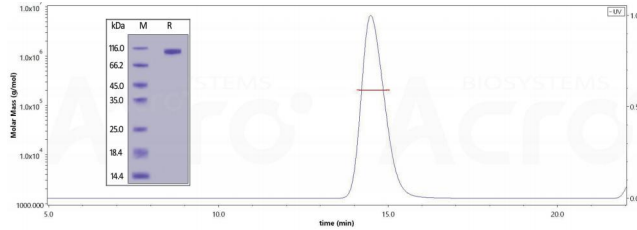
- Drug hit-lead Discovery
- Inhibitor screening

► Products Features

- Dimer structure verified by SEC-MALS
- QC -verified high enzymatic activity
- Dimer purity is greater than 95%

► Assay Data

- Dimer structure and high purity verified by SEC-MALS

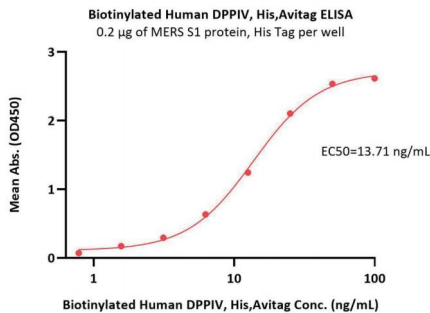


The purity of Human DPPIV, Tag Free (Cat. No. **DP4-H5211**) is more than 95% and the molecular weight of this protein is around 190-220 kDa verified by SEC-MALS.

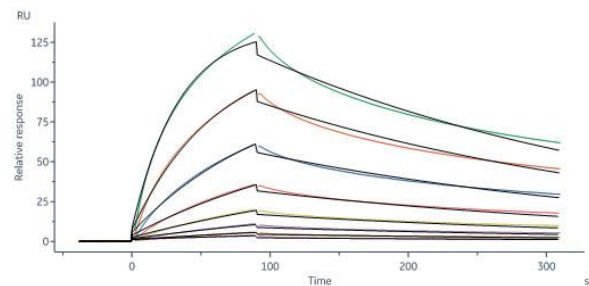
- High enzymatic activity

Product	Human DPPIV / CD26 Protein, Tag Free, active dimer (active enzyme, MALS verified)(Cat.No. DP4-H5211)	Human DPPIV / CD26 Protein, His Tag, active dimer (active enzyme, MALS verified)(Cat.No. DP4-H5221)
Hydrolyzed substrate	Gly-Pro-7-amido-4-methylcoumarin (GP-AMC)	
Enzyme Activity (pmol/min/μg)	>11,000(QC tested)	>8,500 (QC tested)

- High bioactivity verified by ELISA/SPR



Immobilized MERS S1 protein, His Tag (Cat. No. **S1N-M52H5**) at 2 μg/mL (100 μL/well) can bind Biotinylated Human DPPIV, His, Avitag (Cat. No. **DP4-H82E3**) with a linear range of 0.8-25 ng/mL (Routinely tested).



MERS S1 protein, His Tag (Cat. No. **S1N-M52H5**) immobilized on CM5 Chip can bind Cynomolgus DPPIV, His Tag (Cat. No. **DP4-C52H9**) with an affinity constant of 60.7 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

▮ KRAS

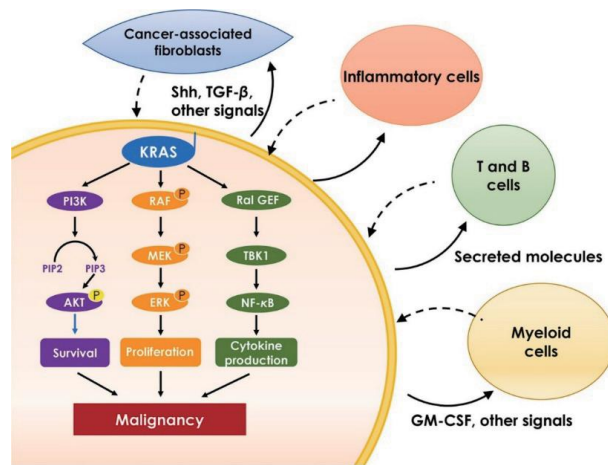
RAS proteins are membrane-bound molecular switches that toggle between inactive and active states in response to signals. Mutations in RAS lead to continuous activation, causing excessive signaling and tumor formation.

RAS proteins are crucial in cellular signaling and linked to cancer markers. In human cancers, RAS is the most frequently mutated oncogene, with about one-fifth of tumors showing RAS protein activation due to genetic mutations. KRAS is the most commonly mutated RAS gene, prevalent in lung, colorectal, and pancreatic cancers. The most common KRAS mutations, such as G12C, G12D, G12V, and G13D, impair the GTPase activity of KRAS, leading to sustained activation of downstream signaling pathways. This aberrant signaling promotes cell proliferation, survival, and other oncogenic processes, contributing to the development and progression of various cancers.

Targeting KRAS has been challenging but important. Inhibitors like AMG 510, designed for KRAS G12C mutation in non-small cell lung cancer, represent a breakthrough. This progress inspires further research and development of KRAS inhibitors, offering new treatment possibilities for cancers with KRAS mutations.

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Signal transduction regulation involving KRAS⁴

► Product Information

We offer a series of KRAS proteins with different mutations. Our KRAS proteins exhibit high-enzyme activity, ensuring optimal performance in your research and development endeavors. With a homogenous structure and a purity level exceeding 90%, our proteins guarantee reliable and accurate results. (For a detailed product list, please refer to page 18.)

► Applications

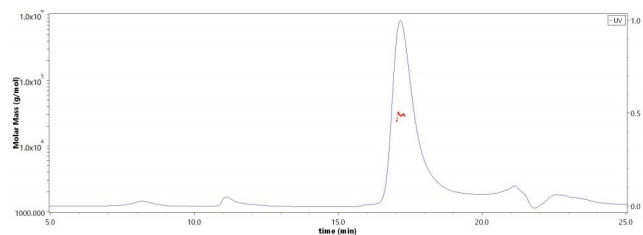
- Screening and validation of small-molecule inhibitors and PROTACs in vitro
- Screening and validation of specific mutations

► Product Features

- Mutant KRAS proteins with common mutation hotspots(G12C/G12D/G12R/G12A/G61H)
- Homogeneous structure and high purity (>90%) verified by SEC-MALS
- High enzymatic activity

► Assay Data

- Homogeneity and high purity verified by SEC-MALS



The purity of Human KRAS (2-185,G12D), His Tag (Cat. No. *KRS-H51H4*) is more than 90% and the molecular weight of this protein is around 24-34 kDa verified by SEC-MALS.

- High enzymatic activity

Cat.No.	Product Description	Methods	Enzymatic Activity
KRS-H51H6	Human KRAS Protein, His Tag (active enzyme, MALS verified)	GTPase-Glo test kras activity	GTP is ≤80%
KRS-H51H3	Human KRAS (2-185, G12C) Protein, His Tag (active enzyme)		GTP is ≤85%
KRS-H51H5	Human KRAS (Q61H) Protein, His Tag (active enzyme)		GTP is ≤85%
KRS-H51H2	Human KRAS (G12R) Protein, His Tag (active enzyme)		GTP is ≤90%
KRS-H51H1	Human KRAS (G12A) Protein, His Tag (active enzyme)		GTP is ≤85%

► Product Catalog

· The critical enzyme for adenosinergic pathways

Molecular	Cat.No.	Product Description
CD39	CD9-H52H5	Human CD39 / ENTPD1 (Q96A, N99A, E143A, R147E) Protein, His Tag (active enzyme, MALS verified)
CD39	CD9-H52H7	Human CD39 (R138A, M139A, E142K) Protein, His Tag (active enzyme)
CD39	CD9-H52H4	Human CD39 / ENTPD1 Protein, His Tag (active enzyme)
CD39	CD9-H5253	Human CD39 Protein, Mouse IgG2a Fc Tag (active enzyme)
CD39	CD9-H82E8	Biotinylated Human CD39 (R138A, M139A, E142K) Protein, His,Avitag™ (active enzyme)
CD39	CD9-H82E5	Biotinylated Human CD39 / ENTPD1 Protein, His,Avitag™ (active enzyme)
CD39	CD9-M52H3	Mouse CD39 / ENTPD2 Protein, His Tag (active enzyme, MALS verified)
CD39	CD9-C52H3	Cynomolgus CD39 / ENTPD1 Protein, His Tag (MALS verified, active enzyme)
CD73	CD3-H5252	Human CD73 Protein, Mouse IgG2a Fc Tag (active enzyme)
CD73	CD3-H52H7	Human CD73 / NT5E Protein, His Tag (HPLC-verified) (active enzyme)
CD73	CD3-H82E3	Biotinylated Human CD73 / NT5E Protein, His,Avitag™
CD73	CD3-M52H9	Mouse CD73 / NT5E Protein, His Tag (active enzyme)
CD73	CD3-C52H9	Cynomolgus CD73 Protein, His Tag (active enzyme)
CD73	CD3-C52H5	Canine CD73 / NT5E Protein, His Tag (MALS verified) (active enzyme)
CD73	CD3-R52H3	Rabbit CD73 / NT5E Protein, His Tag (active enzyme)
CD73	CD3-R52H5	Rat CD73 Protein, His Tag (active enzyme)
CD73	CD3-S52H3	Sus scrofa CD73 / NT5E Protein, His Tag (active enzyme, MALS verified)
CD73	MBS-K022	Human CD73-coupled Magnetic Beads
CD39L1/ENTPD2	CD1-M53H3	Mouse CD39L1 / ENTPD2 Protein, His Tag (active enzyme, MALS verified)
CD39L1/ENTPD2	CD1-H53H3	Human CD39L1 / ENTPD2 Protein, His Tag (active enzyme, MALS verified)

· Matrix Metalloproteinases

Molecular	Cat.No.	Product Description
MMP-1	MM1-H52H3	Human MMP-1 Protein, His Tag (active enzyme, MALS verified)
MMP-2	MM2-M52H9	Mouse MMP-2 (30-460) Protein, His Tag (active enzyme)
MMP-3	MM3-H52H3	Human MMP-3 Protein, His Tag (active enzyme, MALS verified)
MMP-7	MM7-H5249	Human MMP-7 / PUMP1 Protein, His Tag (active enzyme)
MMP-8	MM8-H52H7	Human MMP-8 Protein, His Tag (active enzyme)
MMP-8	MM8-M52H8	Mouse MMP-8 Protein, His Tag (active enzyme, MALS verified)
MMP-9	MM9-H5229	Human MMP-9 Protein, His Tag (active enzyme) (MALS verified)
MMP-9	MM9-H5221	Human MMP-9 Protein, His Tag (active enzyme)
MMP-9	MM9-M52H1	Mouse MMP-9 (20-471) Protein, His Tag (active enzyme, MALS verified)
MMP-9	MM9-C52H3	Cynomolgus MMP-9 Protein, His Tag (active enzyme)
MMP-10	MM0-H5213	Human MMP-10 Protein, Tag Free

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Molecular	Cat.No.	Product Description
EMMPRIN	CD7-HF222	FITC-Labeled Human EMMPRIN / CD147 Protein, His Tag
EMMPRIN	CD7-H5222	Human EMMPRIN / CD147 Protein, His Tag (MALS verified)
EMMPRIN	CD7-H5259	Human EMMPRIN / CD147 Protein, Fc Tag
EMMPRIN	CD7-H82E0	Biotinylated Human EMMPRIN / CD147 Protein, Avitag™, His Tag (MALS verified)
EMMPRIN	CD7-M82E8	Biotinylated Mouse EMMPRIN / CD147 Protein, His, Avitag™ (MALS verified)

Activation description: The proenzyme needs to be activated by APMA for an activated form

· Cathepsins

Molecular	Cat.No.	Product Description
Cathepsin B	CTB-H5222	Human Cathepsin B / CTSB Protein, His Tag (active enzyme, MALS verified)
Cathepsin B	CTB-M52H9	Mouse Cathepsin B / CTSB Protein, His Tag (active enzyme, MALS verified)
Cathepsin S	CTS-H52H9	Human Cathepsin S / CTSS Protein, His Tag (active enzyme, MALS verified)
Cathepsin L	CAL-H52H3	Human Cathepsin L / CTSL1 Protein, His Tag (active enzyme)
Cathepsin L	CAL-M52H3	Mouse Cathepsin L / CTSL1 Protein, His Tag (active enzyme, MALS verified)

· Coagulation Factors

Molecular	Cat.No.	Product Description
Coagulation Factor III	TF3-H52H5	Human Coagulation Factor III / Tissue Factor Protein, His Tag (active enzyme, MALS verified)
Coagulation Factor III	TF3-H5253	Human Coagulation Factor III / Tissue Factor Protein, Fc Tag (active enzyme)
Coagulation Factor III	TF3-M52H3	Mouse Coagulation Factor III / Tissue Factor Protein, His Tag (MALS verified)
Coagulation Factor III	TF3-C52H3	Cynomolgus Coagulation Factor III / Tissue Factor Protein, His Tag (active enzyme, MALS verified)
Coagulation factor VII	TF7-H52H5	Human Coagulation factor VII / F7 Protein, His Tag (active enzyme, MALS verified)
Coagulation factor IX	FIX-H52H3	Human Coagulation factor IX / F9 Protein, His Tag (active enzyme, MALS verified)
Coagulation factor IX	FIX-C52H9	Cynomolgus Coagulation factor IX / F9 Protein, His Tag (active enzyme, MALS verified)
Coagulation factor X	F10-C52H9	Cynomolgus Coagulation factor X / F10 Protein, His Tag (MALS verified)
Coagulation factor XI	FXI-H52H5	Human Coagulation factor XI / FXI Protein, His Tag (active enzyme)
Coagulation factor XI	FXI-C52H3	Cynomolgus Coagulation factor XI Protein, His Tag (SPR verified)

· ADAM Proteases

Molecular	Cat.No.	Product Description
ADAM8	AD8-H5223	Human ADAM8 / CD156a Protein, His Tag
ADAM9	AD9-H52H7	Human ADAM9 Protein, His Tag (active enzyme)
ADAM9	AD9-C52H7	Cynomolgus ADAM9 Protein, His Tag (active enzyme)
ADAM9	AD9-M52H3	Mouse ADAM9 Protein, His Tag (active enzyme, MALS verified)
ADAM17	AD7-M52H1	Mouse ADAM17 / TACE / CD156b Protein, His Tag

· Others

Molecular	Cat.No.	Product Description
BACE-1	BA1-H5261	Human BACE-1 Protein, Fc Tag
BACE-1	BA1-H5213	Human BACE-1 Protein, Tag Free (active enzyme, MALS verified)
BACE-1	BA1-H5220	Human BACE-1 Protein, His Tag (active enzyme, MALS verified)
CD28H	CDH-H5251	Human CD28H / IGPR-1 Protein, Fc Tag (MALS verified)
CD28H	CDH-H52H3	Human CD28H / IGPR-1 Protein, His Tag
DPPIV	DP4-H5211	Human DPPIV / CD26 Protein, Tag Free, active dimer (active enzyme, MALS verified)
DPPIV	DP4-H5266	Human DPPIV / CD26 Protein, Fc Tag (active enzyme)
DPPIV	DP4-H5221	Human DPPIV / CD26 Protein, His Tag, active dimer (active enzyme, MALS verified)
DPPIV	DP4-H82E3	Biotinylated Human DPPIV / CD26 Protein, His,Avitag™ (active enzyme, MALS verified)
DPPIV	DP4-M52H5	Mouse DPPIV / CD26 Protein, His Tag, active dimer (active enzyme, MALS verified)
DPPIV	DP4-C52H9	Cynomolgus DPPIV / CD26 Protein, His Tag, active dimer (active enzyme, MALS verified)
DPPIV	DP4-C52H5	Canine DPPIV / CD26 Protein, His Tag, active dimer (active enzyme, MALS verified)
ENPP-2	EN2-H5241	Human ENPP-2 / Autotaxin Protein, His Tag (active enzyme)
ENPP3	EN3-H52H4	Human ENPP3 / CD203c Protein, His Tag (active enzyme)
ENPP3	EN3-H5267	Human ENPP3 / CD203c Protein, Fc Tag (active enzyme, MALS verified)
ENPP3	EN3-H82E5	Biotinylated ENPP3 protein, His,Avitag™ (active enzyme)
ENPP3	EN3-M52H3	Mouse ENPP3 / CD203c Protein, His Tag (active enzyme, MALS verified)
ENPP3	EN3-M5263	Mouse ENPP3 Protein, Fc Tag (active enzyme, MALS verified)
FAP	FAP-HF243	FITC-Labeled Human FAP Protein, His Tag
FAP	FAP-HP245	PE-Labeled Human FAP Protein, His Tag (Site-specific conjugation)
FAP	FAP-HF263	FITC-Labeled Human FAP Protein, Fc Tag
FAP	FAP-H82Q6	Biotinylated Human FAP Protein, His,Avitag™, active dimer (MALS verified)
FAP	FAP-H5263	Human FAP Protein, Fc Tag, active dimer (MALS verified)
FAP	FAP-H5244	Human FAP Protein, His Tag, active dimer (MALS verified)
FAP	FAP-M52H3	Mouse FAP Protein, His Tag, active dimer (MALS verified)
FAP	FAP-M82Q8	Biotinylated Mouse FAP Protein, His,Avitag™, active dimer (MALS verified)
FAP	FAP-C82Q5	Biotinylated Cynomolgus FAP Protein, His,Avitag™, active dimer (MALS verified)
FAP	FAP-C52H3	Cynomolgus FAP Protein, His Tag, active dimer (MALS verified)
FAP	FAP-R5246	Rat FAP Protein, His Tag, active dimer (MALS verified)
LOXL2	LO2-H82E3	Biotinylated Human LOXL2 Protein, His,Avitag™
LOXL2	LO2-H52H3	Human LOXL2 Protein, His Tag (active enzyme)
Nepilysin	MME-H521b	Human Nepilysin / MME / CD10 Protein, Tag Free (active enzyme)
Nepilysin	MME-H526a	Human Nepilysin / MME / CD10 Protein, Fc Tag
PLAU	PLU-H5228	Human PLAU / uPA Protein, His Tag (activated by trypsin) (active enzyme)
PLAU	PLU-H5229	Human PLAU / uPA Protein, His Tag
PSMA	PSA-H82Qb	Biotinylated Human PSMA / FOLH1 Protein, His,Avitag™, premium grade

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Molecular	Cat.No.	Product Description
PSMA	PSA-H82F7	Biotinylated Human PSMA / FOLH1 Protein, Fc,Avitag™ (MALS verified)
PSMA	PSA-HF244	FITC-Labeled Human PSMA / FOLH1 Protein, His Tag
PSMA	PSA-HP2Q3	PE-Labeled Human PSMA / FOLH1 Protein, His Tag (Site-specific conjugation)
PSMA	PSA-H52H3	Human PSMA / FOLH1 Protein, His Tag (active enzyme, MALS verified)
PSMA	PSA-H5264	Human PSMA / FOLH1 Protein, Fc Tag, premium grade
PSMA	PSA-M5245	Mouse PSMA / FOLH1 Protein, His Tag (active enzyme)
PSMA	PSA-M5266	Mouse PSMA / FOLH1 Protein, Fc Tag (MALS verified)
PSMA	PSA-C5247	Cynomolgus PSMA / FOLH1 Protein, His Tag (active enzyme, MALS verified)
PSMA	PSA-C82Q6	Biotinylated Cynomolgus PSMA / FOLH1 Protein, His,Avitag™ (MALS verified)
PSMA	PSA-R5245	Rat PSMA / FOLH1 Protein, His Tag (active enzyme, MALS verified)
PSMA	MBP-K007	Human PSMA-coupled Magnetic Beads
PSCA	PSA-H82E3	Biotinylated Human PSCA Protein, His,Avitag™ (MALS verified)
PSCA	PSA-H52H6	Human PSCA Protein, His Tag
PSCA	PSA-M82Ea	Biotinylated Mouse PSCA Protein, His,Avitag™, low endotoxin (MALS verified)
PSCA	PSA-M82E3	Biotinylated Mouse PSCA Protein, His,Avitag™ (MALS verified)
RENIN	REN-H5221	Human RENIN Protein, His Tag
RENIN	REN-M5222	Mouse RENIN Protein, His Tag

· Tyrosine Kinase

Molecular	Cat.No.	Product Description
JAK1	BA1-H5261	Human BACE-1 Protein, Fc Tag
PTK7	BA1-H5213	Human BACE-1 Protein, Tag Free (active enzyme, MALS verified)
PTK7	BA1-H5220	Human BACE-1 Protein, His Tag (active enzyme, MALS verified)
PTK7	CDH-H5251	Human CD28H / IGPR-1 Protein, Fc Tag (MALS verified)
PTK7	CDH-H52H3	Human CD28H / IGPR-1 Protein, His Tag
PTK7	DP4-H5211	Human DPPIV / CD26 Protein, Tag Free, active dimer (active enzyme, MALS verified)
PTK7	DP4-H5266	Human DPPIV / CD26 Protein, Fc Tag (active enzyme)
PTK7	DP4-H5221	Human DPPIV / CD26 Protein, His Tag, active dimer (active enzyme, MALS verified)
PTK7	DP4-H82E3	Biotinylated Human DPPIV / CD26 Protein, His,Avitag™ (active enzyme, MALS verified)
PTK7	DP4-M52H5	Mouse DPPIV / CD26 Protein, His Tag, active dimer (active enzyme, MALS verified)
PTK7	DP4-C52H9	Cynomolgus DPPIV / CD26 Protein, His Tag, active dimer (active enzyme, MALS verified)

· Receptor Tyrosine Kinase

Molecular	Cat.No.	Product Description
Axl	AXL-H82F9	Biotinylated Human AXL Protein, Fc,Avitag™ (MALS verified)
Axl	AXL-H5226	Human Axl Protein, His Tag
Axl	AXL-H5253	Human Axl Protein, Fc Tag (MALS verified)
Axl	AXL-C52H3	Cynomolgus Axl Protein, His Tag
EGF R	EGR-HA2H8	APC-Labeled Human EGF R Protein, His TagStar Staining
EGF R	EGR-HF256	FITC-Labeled Human EGF R Protein, Fc Tag
EGF R	EGR-HF2H5	FITC-Labeled Human EGF R Protein, His Tag DMF Filed
EGF R	EGR-HP2E3	PE-Labeled Human EGF R Protein, His Tag (Site-specific conjugation)
EGF R	EGR-HP2H7	PE-Labeled Human EGF R Protein, His TagStar Staining
EGF R	EGR-H82E6	Biotinylated Human EGF R (310-620) Protein, His,Avitag™
EGF R	EGR-H82F8	Biotinylated Human EGF R Protein, Fc,Avitag™ (MALS verified)
EGF R	EGR-H82E3	Biotinylated Human EGF R Protein, His,Avitag™ (MALS verified)
EGF R	EGR-H52H5	Human EGF R (310-620) Protein, His Tag
EGF R	EGR-H5252	Human EGF R Protein, Fc Tag (MALS verified)
EGF R	EGR-H5222	Human EGF R Protein, His Tag (MALS verified)
EGF R	EGR-H522a	Human EGF R Protein, His Tag, low endotoxin (MALS verified)
EGF R	EGR-H5259	Human EGF R Protein, Llama IgG2b Fc Tag, low endotoxin
EGF R	EGR-M5257	Mouse EGF R Protein, Fc Tag (MALS verified)
EGF R	EGR-M5224	Mouse EGF R Protein, His Tag
EGF R	EGR-C5252	Rhesus macaque EGF R Protein, Fc Tag (MALS verified)
EGF R	EGR-C52H1	Rhesus macaque EGF R Protein, His Tag
EGF R	EGR-R52H7	Rabbit EGF R Protein, His Tag
EGF R	MBE-K012	Human EGFR-coupled Magnetic Beads
EGFRvIII	EGI-HA2H7	Alexa Fluor™ 488-Labeled Human EGFRvIII Protein, His TagStar Staining
EGFRvIII	EGI-HA2H8	APC-Labeled Human EGFRvIII Protein, His Tag (Site-specific conjugation)
EGFRvIII	EGI-HA2H5	APC-Labeled Human EGFRvIII Protein, His TagStar Staining
EGFRvIII	EGI-HP2E3	PE-Labeled Human EGFRvIII Protein, His Tag (Site-specific conjugation)
EGFRvIII	EGI-HP2H6	PE-Labeled Human EGFRvIII Protein, His TagStar Staining
EGFRvIII	EGI-HF2H7	FITC-Labeled Human EGFRvIII Protein, His Tag DMF Filed
EGFRvIII	EGR-H82E0	Biotinylated Human EGFRvIII Protein, His,Avitag™ (MALS verified)
EGFRvIII	EGI-H5255	Human EGFRvIII Protein, Fc Tag (MALS verified)
EGFRvIII	EGI-H52H4	Human EGFRvIII Protein, His Tag (MALS verified)
EGFRvIII	MBS-K020	Human EGFRvIII-coupled Magnetic Beads
EphA2	EP2-H82E4	Biotinylated Human EphA2 Protein, His,Avitag™ (MALS verified)
EphA4	EP4-H52H8	Human EphA4 Protein, His Tag
EphA5	EP5-H52H5	Human EphA5 Protein, His Tag (MALS & SPR verified)

Molecular	Cat.No.	Product Description
EphA10	EP0-H52H3	Human EphA10 Protein, His Tag
EphB4	EP4-H5229	Human EphB4 Protein, His Tag
EphB4	EP4-H8229	Biotinylated Human EphB4 Protein, His Tag, ultra sensitivity (primary amine labeling)
FGF R1	FG1-H5223	Human FGF R1 / CD331 Protein, His Tag (SPR verified)
FGF R2 (IIIb)	FGB-H5223	Human FGF R2 (IIIb) protein, His Tag (MALS verified)
FGF R2 (IIIb)	FGB-C52H6	Cynomolgus FGF R2 (IIIb) protein, His Tag (MALS verified)
FGF R2 (IIIb)	FGB-H5256	Human FGF R2 (IIIb) protein, Fc Tag (MALS verified)
FGF R2 (IIIb)	FGB-M52H5	Mouse FGF R2 (IIIb) protein, His Tag
FGF R2 (IIIc)	FGC-H5225	Human FGF R2 (IIIc) protein, His Tag (MALS verified)
FGF R3 (IIIb)	FGB-H5259	Human FGF R3 (IIIb) / FGF R3B / CD333 Protein, Fc Tag (MALS verified)
FGF R3 (IIIc)	FGC-H5256	Human FGF R3 (IIIc) / FGF R3C / CD333 Protein, Fc Tag (MALS verified)
FGF R4	FG4-H5228	Human FGF R4 / CD334 Protein, His Tag
FGF R4	FG4-H5253	Human FGF R4 / CD334 Protein, Fc Tag (MALS & SPR verified)
FGF R4	FG4-M52Ha	Mouse FGF R4 / CD334 Protein, His Tag
Flt-3	FL3-HF255	FITC-Labeled Human Flt-3 / Flk-2 Protein, Fc Tag
Flt-3	FL3-H82E3	Biotinylated Human Flt-3 / Flk-2 Protein, His,Avitag™ (MALS verified)
Flt-3	FL3-H52H6	Human Flt-3 / Flk-2 Protein, His Tag (MALS verified)
Flt-3	FL3-H5258	Human Flt-3 / Flk-2 Protein, Fc Tag (MALS verified)
Flt-3	FL3-M52H6	Mouse Flt-3 / Flk-2 Protein, His Tag
Flt-3	FL3-C52H5	Cynomolgus Flt-3 / Flk-2 Protein, His Tag (MALS verified)
Her2	HE2-HA2H3	Alexa Fluor™ 488-Labeled Human Her2 / ErbB2 Protein, His TagStar Staining
Her2	HE2-HA2H4	Alexa Fluor™ 555-Labeled Human Her2 / ErbB2 Protein, His TagStar Staining
Her2	HE2-HA2H5	Alexa Fluor™ 647-Labeled Human Her2 / ErbB2 Protein, His TagStar Staining
Her2	HE2-HA2H7	APC-Labeled Human Her2 / ErbB2 Protein, His Tag (Site-specific conjugation)
Her2	HE2-HA2H9	APC-Labeled Human Her2 / ErbB2 Protein, His TagStar Staining
Her2	HE2-HP2E3	PE-Labeled Human Her2 / ErbB2 Protein, His Tag (Site-specific conjugation)
Her2	HE2-HP2H8	PE-Labeled Human Her2 / ErbB2 Protein, His TagStar Staining
Her2	HE2-HF256	FITC-Labeled Human Her2 / ErbB2 Protein, Fc Tag
Her2	HE2-HF224	FITC-Labeled Human Her2 / ErbB2 Protein, His Tag
Her2	HE2-C82E3	Biotinylated Cynomolgus Her2 / ErbB2 Protein, His,Avitag™ (MALS verified)
Her2	HE2-H822R	Biotinylated Human Her2 / ErbB2 Protein, His Tag, ultra sensitivity (primary amine labeling, long spacer)
Her2	HE2-H82E2	Biotinylated Human Her2 / ErbB2 Protein, His,Avitag™, premium grade
Her2	HE2-H52H9	Human Her2 / ErbB2 (23-510) Protein, His Tag (MALS verified)
Her2	HE2-H52H4	Human Her2 / ErbB2 (498-648) Protein, His Tag
Her2	HE2-H52H2	Human Her2 / ErbB2 (S310F) Protein, His Tag
Her2	HE2-H52H3	Human Her2 / ErbB2 (S310Y) Protein, His Tag (MALS verified)
Her2	HE2-H5253	Human Her2 / ErbB2 Protein, Fc Tag, premium grade

Molecular	Cat.No.	Product Description
Her2	HE2-H5225	Human Her2 / ErbB2 Protein, His Tag (MALS verified)
Her2	HE2-H5255	Human Her2 / ErbB2 Protein, Mouse IgG2a Fc Tag (MALS verified)
Her2	HE2-H5212	Human Her2 / ErbB2 Protein, Tag Free
Her2	HE2-H5287	Human Her2 / ErbB2 Protein, Twin-Strep Tag
Her2	ER2-M5220	Mouse Her2 / ErbB2 Protein, His Tag
Her2	HE2-C52Hb	Cynomolgus Her2 / ErbB2 Protein, His Tag (MALS verified)
Her2	HE2-R52H8	Rabbit Her2 / ErbB2 Protein, His Tag
Her2	MBS-K006	Human HER2-coupled Magnetic Beads
Her2	MBS-C006	ActiveMax® Human Her2 μ Beads, premium grade (for cells)
PDGF R alpha	PDA-H52H7	Human PDGF R alpha / PDGFRA Protein, His Tag
PDGF R beta	PDB-H5259	Human PDGF R beta / CD140b Protein, Fc Tag
PDGF R beta	PDB-C52H3	Canine PDGF R beta / CD140b Protein, His Tag
MERTK	MEK-H52H6	Human MERTK / Mer Protein, His Tag
MERTK	MEK-H5253	Human MERTK / Mer Protein, Fc Tag
MERTK	MEK-M52H9	Mouse MERTK / Mer Protein, His Tag (MALS verified)
MERTK	MEK-M5253	Mouse MERTK / Mer Protein, Fc Tag (MALS verified)
MERTK	MEK-C5253	Cynomolgus MERTK / Mer Protein, Fc Tag (MALS verified)
TrkA	TRA-H5253	Human TrkA / NTRK1 (192-402) Protein, Mouse IgG2a Fc Tag
TrkA	TRA-H5259	Human TrkA / NTRK1 (33-417) Protein, Mouse IgG2a Fc Tag
TrkB	NT2-H5254	Human TrkB / NTRK2 Protein, Fc Tag
TrkB	NT2-H5228	Human TrkB / NTRK2 Protein, His Tag
TYRO3	TY3-H5251	Human TYRO3 / Dtk Protein, Fc Tag

· Serine/Threonine-Protein Kinase

Molecular	Cat.No.	Product Description
Akt1	AK1-H5283	Human Akt1 Protein, His, Strep II Tag
ALK-1	AL1-H5228	Human ALK-1 / ACVRL1 Protein, His Tag
ALK-7	AL7-H52H5	Human ALK-7 Protein, His Tag
MASP3	MA3-H52H3	Human MASP3 (450-721) Protein, His Tag (active enzyme)

· Alkaline Phosphatase-like Enzyme

Molecular	Cat.No.	Product Description
ALPG	ALG-H52H9	Human ALPG / ALPPL2 Protein, His Tag (MALS verified)
ALPG	ALG-H52E1	Biotinylated Human ALPG / ALPPL2 Protein, His, Avitag™ (MALS verified)
ALPG	ALG-M52H9	Mouse ALPG / ALPPL2 Protein, His Tag (MALS verified)
ALPI	ALI-H52H3	Human ALPI Protein, His Tag (MALS verified)
ALPL	ALL-H52H3	Human ALPL Protein, His Tag (active enzyme, MALS verified)
ALPP	ALP-H52H3	Human ALPP Protein, His Tag (MALS verified)

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Molecular	Cat.No.	Product Description
ALPP	ALP-C52H3	Cynomolgus ALPP Protein, His Tag

· Protein Arginine Deiminase

Molecular	Cat.No.	Product Description
PADI2	PA2-H5543	Human PADI2 Protein, His Tag, low Endotoxin (InsectCells)
PADI2	PA2-M5544	Mouse PADI2 Protein, His Tag (MALS verified)
PADI2	PA2-C5545	Cynomolgus PADI2 Protein, His Tag (MALS verified)
PADI3	PA3-H5544	Human PADI3 Protein, His Tag
PADI6	PA6-H5545	Human PADI6 Protein, His Tag

· Ubiquitin Related Proteins

Molecular	Cat.No.	Product Description
CBLB	CBB-H5148	Human CBLB / RNF56 Protein, His Tag
Elongin B & Elongin C & VHL	ELL-H5595	Human Elongin B&Elongin C&VHL Heterotrimer Protein, Strep II Tag&Strep II Tag&His Tag (MALS&SPR verified)
UBE1	UB1-H5248	Human UBE1 / UBA1 Protein, His Tag
UCH-L1	UC1-H5140	Human UCH-L1 Protein, His Tag
UCH-L3	UC3-H5141	Human UCH-L3 / UCHL3 Protein, His Tag
RNF43	RN3-H5256	Human RNF43 Protein, Fc Tag (MALS verified)

· Oxidoreductases

Molecular	Cat.No.	Product Description
IDH1	ID1-H51H6	Human BACE-1 Protein, Fc Tag
IDH1	ID1-H51H8	Human BACE-1 Protein, Tag Free (active enzyme, MALS verified)
TDO2	TD2-H5143	Human BACE-1 Protein, His Tag (active enzyme, MALS verified)
Xanthine dehydrogenase	XDE-H5143	Human CD28H / IGPR-1 Protein, Fc Tag (MALS verified)

· Hydrolases

Molecular	Cat.No.	Product Description
Angiogenin	ANN-H5149	Human Angiogenin / RNASE5 Protein, His Tag
beta-Galactosidase-1	BG1-H52H3	Human beta-Galactosidase-1 Protein, His Tag
beta-Glucuronidase/GUSB	BEB-H52H3	Human beta-Glucuronidase/GUSB Protein, His Tag (active enzyme)
Glucosylceramidase	GLE-H52H3	Human Glucosylceramidase Protein, His Tag
Matriptase	MAE-H5143	Human Matriptase / ST14 Catalytic Domain Protein, His Tag
PH20	PH0-H5225	Human PH20 / SPAM1 Protein, His Tag (active enzyme) DMF Filed
PH20	PH0-H5219	Human PH20 / SPAM1 Protein, Tag Free (active enzyme, MALS verified)
Plasma Kallikrein/KLKB1	KL1-H52H9	Human Plasma Kallikrein / KLKB1 Protein, His Tag (active enzyme, MALS verified)
Plasma Kallikrein/KLKB1	KL1-M52H9	Mouse Plasma Kallikrein / KLKB1 Protein, His Tag
Prostatic Acid Phosphatase	PRE-H82E8	Biotinylated Human Prostatic Acid Phosphatase / ACPD Protein, His,Avitag™ (active enzyme, MALS verified)

· **Phosphatase**

Molecular	Cat.No.	Product Description
PTPRD	PTD-H52H9	Human PTPRD Protein, His Tag

· **Carbonic Anhydrase**

Molecular	Cat.No.	Product Description
Carbonic Anhydrase II	CA2-H5228	Human Carbonic Anhydrase II / CA2 Protein, His Tag
Carbonic Anhydrase IX	CA9-HA2H7	APC-Labeled Human Carbonic Anhydrase IX / CA9 (38-414) Protein, His Tag (Site-specific conjugation)
Carbonic Anhydrase IX	CA9-HP2H6	PE-Labeled Human Carbonic Anhydrase IX / CA9 (38-414) Protein, His Tag (Site-specific conjugation)
Carbonic Anhydrase IX	CA9-HF228	FITC-Labeled Human Carbonic Anhydrase IX / CA9 (38-414) Protein, His Tag (MALS verified)
Carbonic Anhydrase IX	CA9-H82F5	Biotinylated Human Carbonic Anhydrase IX / CA9 (38-414) Protein, Fc,Avitag™ (MALS verified)
Carbonic Anhydrase IX	CA9-H82E3	Biotinylated Human Carbonic Anhydrase IX / CA9 (38-414) Protein, His,Avitag™ (MALS verified)
Carbonic Anhydrase IX	CA9-H5220	Human Carbonic Anhydrase IX / CA9 (138-414) Protein, His Tag (MALS verified)
Carbonic Anhydrase IX	CA9-H5253	Human Carbonic Anhydrase IX / CA9 (38-414) Protein, Fc Tag (MALS verified)
Carbonic Anhydrase IX	CA9-H5226	Human Carbonic Anhydrase IX / CA9 (38-414) Protein, His Tag (active enzyme, MALS verified)
Carbonic Anhydrase IX	CA9-M52H3	Mouse Carbonic Anhydrase IX / CA9 (32-390) Protein, His Tag (MALS verified)
Carbonic Anhydrase IX	CA9-C82E6	Biotinylated Cynomolgus Carbonic Anhydrase IX / CA9 (38-398) Protein, His,Avitag™ (MALS verified)
Carbonic Anhydrase IX	CA9-C52H3	Cynomolgus Carbonic Anhydrase IX Protein, His Tag (MALS verified)
Carbonic Anhydrase XII	CAI-M82E3	Biotinylated Mouse Carbonic Anhydrase XII Protein, His,Avitag™ (active enzyme, MALS verified)
Carbonic Anhydrase XII	CAI-C82E3	Biotinylated Cynomolgus Carbonic Anhydrase XII Protein, His,Avitag™ (active enzyme, MALS verified)

· **Others**

Molecular	Cat.No.	Product Description
Plexin B1	PL1-H52H3	Human Plexin B1 Protein, His Tag
Plexin B2	PL2-H52H3	Human Plexin B2 Protein, His Tag
GAS6	GA6-H5247	Human GAS6 (471-678) Protein, His Tag (MALS verified)
GAS6	GA6-H5249	Human GAS6 (279-678) Protein, His Tag (MALS verified)
GAS6	GA6-H82E5	Biotinylated Human GAS6 (279-678) Protein, His,Avitag™
KRAS	KRS-H51H1	Human KRAS (G12A) Protein, His Tag (active enzyme)
KRAS	KRS-H51H2	Human KRAS (G12R) Protein, His Tag (active enzyme)
KRAS	KRS-H51H3	Human KRAS (2-185, G12C) Protein, His Tag (active enzyme)
KRAS	KRS-H51H4	Human KRAS (2-185, G12D) Protein, His Tag (active enzyme, MALS verified)
KRAS	KRS-H51H5	Human KRAS (Q61H) Protein, His Tag (active enzyme)
KRAS	KRS-H51H6	Human KRAS Protein, His Tag (active enzyme, MALS verified)
KRAS	KRS-H5547	Human KRAS Protein, His Tag

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Tool Enzyme

Tool enzymes, including nucleic acid enzymes, have diverse functions like restriction, polymerization, ligation, modification, and cleavage. They efficiently recognize specific sequences and enable the manipulation and analysis of nucleic acids. These enzymes are widely used to detect and study biologically active molecules.

CAS nucleases, including universal nucleases, CAS9, and CAS12a, for cell and gene engineering, as well as regulatory safety monitoring of biological products are now available. This includes tool enzymes for antibody analysis, aiding in antibody fragmentation, glycosylation analysis, and exploring the relationship between antibody structure and function. These tools contribute to the development and quality control of biopharmaceuticals.

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Product Catalog

> Nuclease

Type	GENIUS™ Nuclease	Cas Enzyme
Molecular	Nuclease ^{HOT}	Cas9 Cas12a

> Protease

Type	Fusion tag cleavage	Antibody Characterization	
Molecular	3C(HRV) ^{HOT}	IdeS	Endo H
		SpeB	EndoS

Featured Products

I GENIUS™ Nuclease

The biopharmaceutical industry has grown rapidly, bringing forth biological products that enhance human health. However, regulations on these products have become stricter, particularly concerning nucleic acid residues. The World Health Organization and various countries enforce limits of below 100 pg per dose for DNA residues in vaccines and therapeutic biological products, with some products having a stricter limit of 10 pg. Effective methods for removing nucleic acid residues are crucial for successful biological products.

Enzymatic removal is a common method for eliminating nucleic acid residues during production. Nuclease, derived from *Serratia Marcescens*, is a genetically engineered enzyme that breaks down all forms of DNA and RNA (single stranded, double stranded, linear and circular) into 5-monophosphate oligonucleotides of 3-8 bases in length, that have no base-recognition specificity.

We now offer GENIUS™ Nuclease, a high-quality product with strong enzyme activity and safety. It efficiently removes residual nucleic acids, making it suitable for research and production of gene therapy, vaccines, and other biological products.

► Product Features

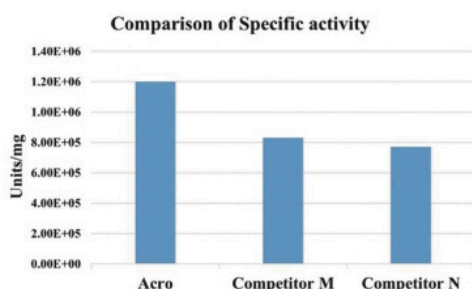
- Efficient: Efficient reaction, rapid degradation, reduce processing time.
- Native: Native structure, tag free, guaranteed enzyme activity.
- Ideal: Ideal for DNA and RNA clearance.
- Ultra-pure: High purity and activity.
- Specific: Highly specific nuclease with no protease activity.
- Optional: Premium and GMP grade nucleases are available to enable a seamless transition from preclinical development to clinical stages.

► Product List

Cat.No.	Product Description
GMP-NUES13	GMP Salt Active GENIUS™ Nuclease
GMP-NUES19	GMP GENIUS™ Nuclease
NUE-S5118	Salt Active GENIUS™ Nuclease
NUE-S5119	GENIUS™ Nuclease, premium grade
BEE-N3116	GENIUS™ Nuclease DMF Filled

► Assay Data

- GENIUS™ Nuclease, premium grade shows higher specific activity than other competitors

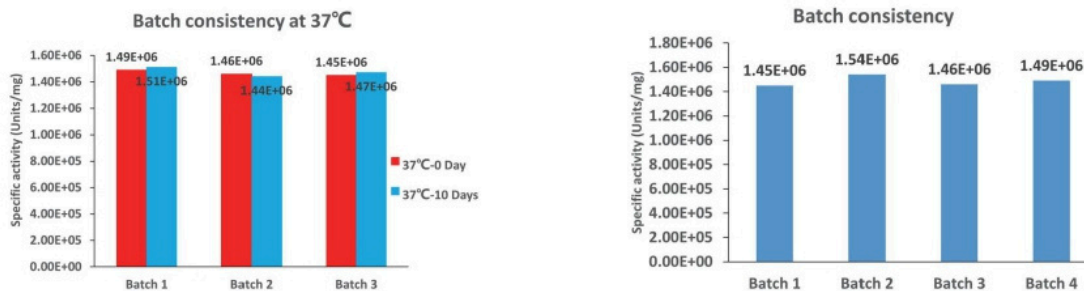


Specific activity for GENIUS™ Nuclease, premium grade is measured under standard assay conditions. The specific activity of GENIUS™ Nuclease, premium grade is $>1.2 \times 10^6$ units/mg protein. One unit will digest sonicated salmon sperm DNA into acid-soluble oligonucleotides equivalent to a ΔA_{260} of 1.0 in 30 min at pH 8.0 at 37 °C, which corresponds to approximately 37 μ g DNA. Note that 1 KU = 1000 units.

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· High batch consistency



GENIUS™ Nuclease, premium grade (Cat. No. NUE-S5119) demonstrate high batch-to-batch consistency, ensuring uniformity across different batches.

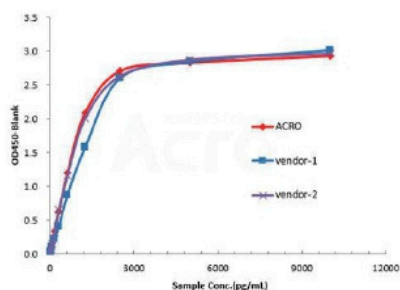
Products Recommendations: Nuclease Detection Kit

The residual amount of nuclease in biological products is also an important indicator in measuring the quality of biological products. We also provide a high-quality GENIUS Nuclease ELISA Kit (Cat. No: CRS-A016).

Cat.No.	Product Description
CRS-A016	resDetect™ GENIUS™ Nuclease ELISA Kit (Residue Testing)

► Assay Data

· Compatibility



GENIUS™ Nuclease ELISA Kit (Residue Testing) (Cat. No. CRS-A016) can detect the nuclease from different manufacturers with similar sensitivity.

· Precision

Sample	Intra-assay Precision			Inter-assay Precision		
	1	2	3	1	2	3
n	20	20	20	3	3	3
Mean (pg/mL)	754.087	379.949	194.367	778.443	385.858	207.911
CV (%)	6.20%	6.90%	5.10%	2.80%	1.40%	6.10%

Intra-Assay Precision: Twenty replicates of each of three samples containing different concentrations were tested in one assay. Within the detection range, the CV is less than 10%.

Inter-Assay Precision: Three replicates of each of three samples containing different concentrations were tested in three independent assays. Within the detection range, the CV is less than 10%.

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Cas Enzyme

As a leading supplier of recombinant proteins, we launched the CAS series nuclease including Cas9 and Cas12a. These proteins are mainly used for targeted gene editing to provide high editing efficiency.

Product Features

- The high enzyme activity is verified by in vivo/ in-vitro experiments: In- vitro fragment cleavage efficiency >90%, which is facilitating genome editing with CRISPR technology.
- Available in high concentrations of CAS-9 nuclease: 10mg/ ml for optimization of editing conditions in more difficult scenarios
- High purity: SDS-PAGE & SEC-MALS verified purity > 90%.
- No residual RNase: The production process is strictly free from RNase pollution
- Incorporation of nuclear localization signals (NLS) aids delivery to the nucleus, increasing the rate of genomic DNA cleavage

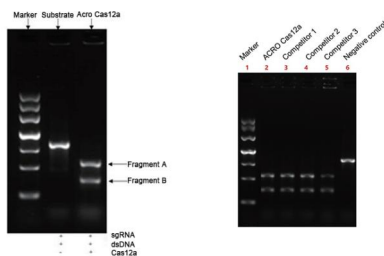
Product List

Molecular	Cat.No.	Product Description
Cas9	GMP-CA9S18	GMP GENPower™ NLS-Cas9 Nuclease
	CA9-S5149	GENPower™ NLS-Cas9 Nuclease (MALS verified)
Cas12a	CAA-L5140	GENPower™ NLS-Cas12a Nuclease (MALS verified)
	CAA-L5149	NLS-Cas12a Nuclease (MALS verified)

Assay Data

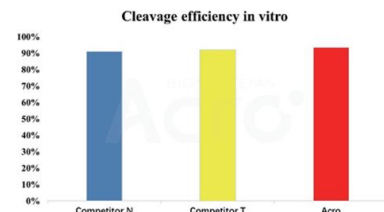
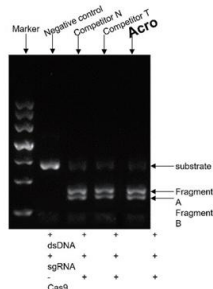
- The high enzyme activity is verified by in vivo/in-vitro experiments

NLS-Cas12a Nuclease (MALS verified) (Cat. No. **CAA-L5149**) substrate cutting efficiency>90%, the cleavage activity is comparable to that of competing products



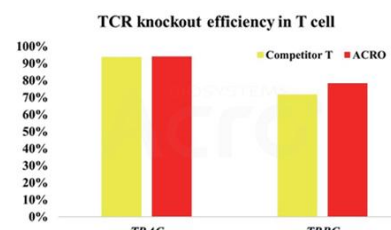
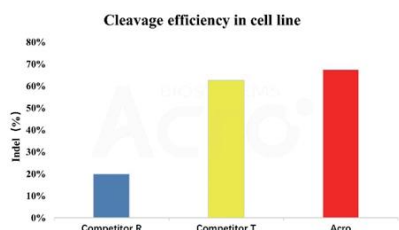
Measured by its ability to cleave a targeted DNA substrate. Cas12a achieves >90% substrate cleavage, comparable to competing products

The enzyme activity of GENPower™ NLS-Cas9 Nuclease (MALS verified) (Cat.No: **CA9-S5149**) is comparable to that of other competitors



GENPower™ NLS-Cas9 Nuclease is evaluated in an in vitro DNA cleavage assay on a DNA fragment containing the target sequence. The activity of the GENPower™ NLS-Cas9 Nuclease is greater than 90% (Oc tested).

The cleavage activity of GENPower™ NLS-Cas9 Nuclease in vitro.



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Enzymes for In-Depth Antibody Characterization

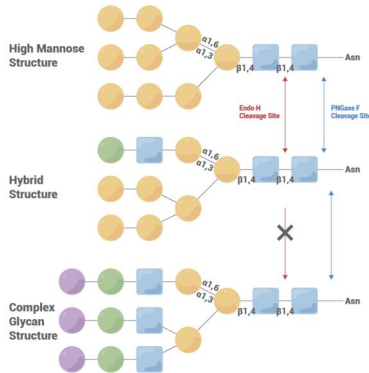
Tools for Glycan Analysis

The structure and type of N-linked glycans can affect the immunogenicity, pharmacokinetics, and pharmacodynamics of therapeutic proteins such as monoclonal antibodies (mAbs) and Fc fusion proteins. Enzymes such as Endo H and Endo S provide type-specific cleavages of N-linked glycans for subsequent analysis.

Endo H (500U/μl) (Cat. No. **ENH-S5116**)

Applications

Endo H cleaves asparagine-linked (N-linked) hybrid or high mannose oligosaccharides but not complex oligosaccharides.



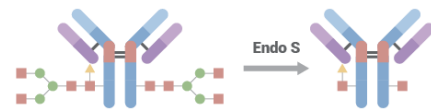
Product Features

- Selective action: Does not cleave complex glycans
- ≥95% purity, as determined by SDS-PAGE
- Optimal pH: 5-6
- Reaction time: 1h

Endo S (200U/μl) (Cat. No. **ENS-S5143**)

Applications

Endo S preferentially cleaves complex oligosaccharides and avoids the cleavage of asparagine-linked (N-linked) hybrid or high mannose oligosaccharides.



Product Features

- Highly efficient IgG-specific endoglycosidase
- ≥95% purity as determined by SDS-PAGE
- Reaction time: 30 min

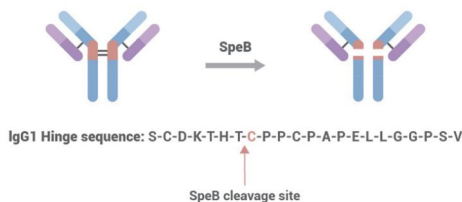
Antibody Subunit Fragmentation

SpeB (40U/μl) (Cat. No. **SPB-S5115**)

Applications

SpeB enzyme digests IgG to generate Fab and Fc fragments. Purified and homogenous Fab fragments can be used in many applications, including:

- 1) Studying the monovalent binding of Fab fragments to the antigen.
- 2) Elimination of Fc-mediated effector functions.
- 3) Reduced unspecific binding from Fc interactions.



Product Features

- Cleavage site (Human IgG1): KTHT / CPPCPAP (above the hinge)
- Reaction time: 60min
- High enzymatic activity: 40u/μl
- Reaction conditions: Reducing conditions

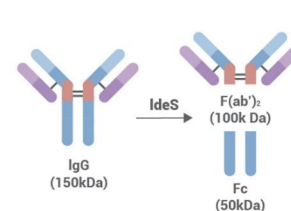
IdeS (20U/μl) (Cat. No. **IDS-S5143**)

Applications

IdeS protease specifically cleaves IgG below the hinge region into F(ab')₂ and Fc fragments. These fragments are then analyzed using techniques such as mass spectrometry or HPLC.

IgG1 Hinge sequence: S-C-D-K-T-H-T-C-P-P-C-P-A-P-E-L-L-G-G-P-S-V

IdeS cleavage site



Product Features

- Cleavage site (Human IgG1): CPAPELLG / GPSVF (below the hinge)
- Reaction time: 30 min
- High enzymatic activity: 20u/μl

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Protease for fusion tag cleavage

HRV-3C Protease Cleavage Enzyme Protein, GST Tag (active enzyme) (Cat .No. **3CC-N3133**)

Applications

Human rhinovirus 3C protease (HRV 3C protease) is highly specific for the recognition sequence Leu-Glu-Val-Leu-Phe-Gln-↓-Gly-Pro, and can remove purification tags from fusion proteins.

Product Features

- Purification tags removal
- High enzymatic activity

Cathepsin B

Cathepsins are lysosomal proteases involved in protein hydrolysis. They include cysteine proteases (e.g., Cathepsin A and Cathepsin G), serine proteases, and aspartic acid proteases (e.g., Cathepsin D and Cathepsin E). Among them, cysteine proteases, especially Cathepsin B, are extensively studied. Cathepsins are associated with tumor invasion, immune-related diseases, and parasitic infections.

Cathepsin B is a carboxypeptidase that selectively recognizes and cleaves peptide bonds at the C-terminal side of specific amino acid sequences. It cleaves at specified locations including Phe-Lys, Val-Cit, Glu-Val-Cit, and GGFG, commonly used in antibody-drug conjugates (ADCs) manufacturing. Its high enzymatic activity facilitates ADCs development. Cathepsin B is overexpressed in various tumor cells. It plays different roles at different stages of malignant tumors, promoting tumor invasion and metastasis by degrading the extracellular matrix through its endopeptidase activity.

Product List

Molecular	Cat.No.	Product Description
Cathepsin B	CTB-H5222	Human Cathepsin B / CTSB Protein, His Tag (active enzyme, MALS verified)
	CTB-M52H9	Mouse Cathepsin B / CTSB Protein, His Tag (active enzyme, MALS verified)

Applications

Evaluate the effect of proteases cleavage of linker to ensure the efficient release of the intracellular payloads.

Product Features

- High purity verified by SDS-PAGE and SEC-MALS
- Specific enzyme cleavage
- QC -verified High Enzymatic Activity
- Natural conformation: HEK293 expressed protein to ensure the natural structure
- Sample protein is easily dissolved.

Assay Data

Product	Human Cathepsin B / CTSB Protein, His Tag (active enzyme, MALS verified)(Cat.No. CTB-H5222)
Hydrolyzed substrate	The fluorogenic peptide substrate Z-LR-AMC.
Enzymatic activity (pmol/min/μg)	>2500(QC tested)

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mRNA Enzyme

During mRNA synthesis, modifications are employed to enhance translation efficiency, stability, and prevent degradation. These modifications involve capping the 5' end and appending a poly(A) tail at the 3' end of mRNA.

We offer enzyme products that facilitate mRNA synthesis and modification. These enzymes are of high purity, possess activity, and are free from contaminants. They effectively tackle challenges associated with capping efficiency, poly(A) tail sequences, mRNA stability, and cell delivery.

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Product Features

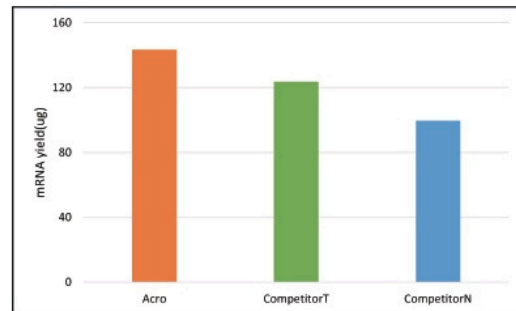
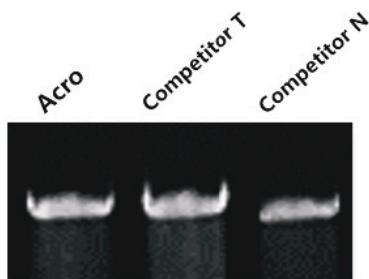
- High purity
- Verified high activity
- Low endotoxin levels
- Low dsRNA contamination

Product List

Molecular	Cat.No.	Product Description
T7 RNA Polymerase	T7E-E5143	T7 RNA Polymerase(50U/μl)
Pyrophosphatase	PYE-T5143	Thermostable Inorganic Pyrophosphatase (2 U/μl)
Pyrophosphatase	PYE-S5143	Pyrophosphatase, Inorganic (yeast) (0.1 U/μl)
Rnase Inhibitor	RNR-M5143	Murine RNase Inhibitor (40 U/μl)
DNase I	DNI-B52H3	DNase I(50U/μl)
Poly(A) Polymerase	POE-E5143	E. coli Poly(A) Polymerase (5U/ul)
RNase R	RNR-E5146	RNase R (20 U/μl)
Ribonuclease 3	RI3-E5143	RNase III (2U/μl)

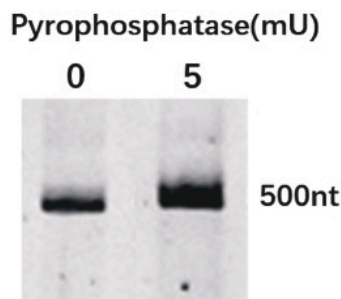
Assay Data

- T7 RNA Polymerase

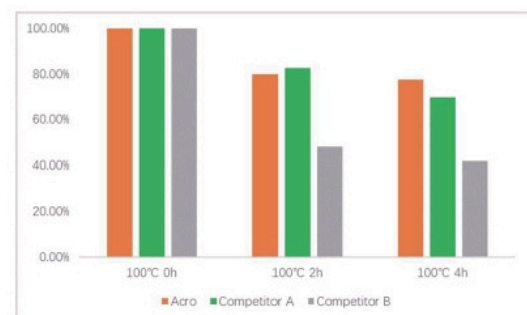


Adding T7 RNA polymerase (Cat. No. T7E-E5143) to a 20 μL transcription system yields 120-160 μg of mRNA.

- Inorganic pyrophosphatase



Adding Pyrophosphatase, Inorganic (yeast) (Cat. No. PYE-S5143) can enhance RNA yield by approximately 2-fold.

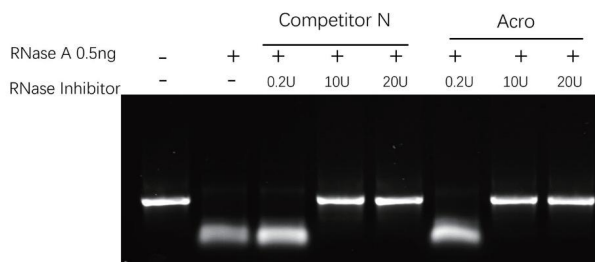


High-Temperature Inorganic Pyrophosphatase (Cat. No. PYE-T5143) outperforms both competitors, maintaining 80% activity at 100°C for 4 hours.

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- Murine RNase Inhibitor



1X 1% TBE buffer agarose gel electrophoresis for 15 minutes using 2 µg of RNA substrate

Murine RNase Inhibitor (Cat. No. **RNR-M5143**) effectively suppresses RNase A activity, demonstrating comparable efficacy to international competitors.

Products Recommendations: T7 RNA Polymerase ELISA Kit

Enzymes used as raw materials help produce significant amounts of RNA, but they also introduce impurities into the final pharmaceutical product. The United States Pharmacopeia (USP) emphasizes the importance of implementing comprehensive quality control measures during the manufacturing process in their publication "mRNA Vaccine Quality Analysis Methods." This ensures the quality, safety, and effectiveness of the product. The guidance stresses the need to detect and monitor impurities related to the manufacturing process, while conducting thorough analyses on major impurities. These measures are essential for maintaining the highest standards of quality and safety for the end product.

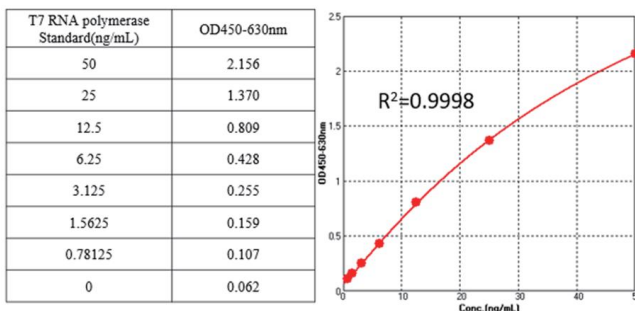
Product List

We have developed the T7 RNA Polymerase ELISA Kit (Cat. No. **RES-A018**) following established pharmacopeial guidelines. This kit offers a broad detection range and high sensitivity, ensuring the quality and safety of the final product.

Cat.No.	Product Description
RES-A018	resDetect™ T7 RNA Polymerase ELISA Kit (Residue Testing)

Assay Data

	ACROBiosystems	Competitor A	Competitor B	Competitor C
Detection range	50-0.78ng/mL	16-0.5ng/mL	256-4 ng/mL	80-0.5ng/mL
Sensitivity	0.161ng/mL	0.5ng/mL	4ng/mL	0.5ng/mL
Precision	CV<10%	CV<15%	CV%≤10%	CV%≤10%
Recovery rate	80-120%	80-120%	-	-



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Sample	Intra-assay Precision			Inter-assay Precision		
	1	2	3	1	2	3
n	20	20	20	3	3	3
Mean (pg/mL)	36.606	12.845	1.779	37.457	13.009	1.801
Standard Deviation	2.255	0.383	0.149	0.805	0.213	0.023
CV (%)	6.20%	3.0%	8.4%	2.1%	1.6%	1.3%

After verification, our developed T7 RNA Polymerase ELISA Kit (Cat. No. **RES-A018**) has been found to possess notable characteristics such as a broad detection range, high sensitivity, and high precision.

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Distributed by:

CliniSciences Group

CliniSciences Group

Austria

Company: CliniSciences GmbH
Address: Sternwartestrasse 76, A-1180
Wien - Austria
Telephone: +43 720 115 580
Fax: +43 720 115 577
Email: oesterreich@clinisciences.com
Web: <https://www.clinisciences.com>



Belgium

Company: CliniSciences S.R.L
Address: Avenue Stalingrad 52, 1000
Brussels - Belgium
Telephone: +32 2 31 50 800
Fax: +32 2 31 50 801
Email: belgium@clinisciences.com
Web: <https://www.clinisciences.com>



Denmark

Company: CliniSciences ApS
Address: Oesterbrogade 226, st. 1,
Copenhagen, 2100 - Denmark
Telephone: +45 89 888 349
Fax: +45 89 884 064
Email: danmark@clinisciences.com
Web: <https://www.clinisciences.com>



Finland

Company: CliniSciences ApS
Address: Oesterbrogade 226, st. 1,
Copenhagen, 2100 - Denmark
Telephone: +45 89 888 349
Fax: +45 89 884 064
Email: suomi@clinisciences.com
Web: <https://www.clinisciences.com>



France

Company: CliniSciences S.A.S
Address: 74 Rue des Suisses, 92000
Nanterre- France
Telephone: +33 9 77 40 09 09
Fax: +33 9 77 40 10 11
Email: info@clinisciences.com
Web: <https://www.clinisciences.com>



Germany

Company: Biotrend Chemikalien GmbH
Address: Wilhelm-Mauser-Str. 41-43,
50827 Köln - Germany
Telephone: +49 221 9498 320
Fax: +49 221 9498 325
Email: info@biotrend.com
Web: <https://www.biotrend.com>



Iceland

Company: CliniSciences ApS
Address: Oesterbrogade 226, st. 1,
Copenhagen, 2100 - Denmark
Telephone: +45 89 888 349
Fax: +45 89 884 064
Email: island@clinisciences.com
Web: <https://www.clinisciences.com>



Ireland

Company: CliniSciences Limited
Address: Ground Floor, 71 lower Baggot street
Dublin D02 P593 - Ireland
Telephone: +353 1 6971 146
Fax: +353 1 6971 147
Email: ireland@clinisciences.com
Web: <https://www.clinisciences.com>



Italy

Company: CliniSciences S.r.l
Address: Via Maremmana inferiore 378
Roma 00012 Guidonia Montecelio - Italy
Telephone: +39 06 94 80 56 71
Fax: +39 06 94 80 00 21
Email: italia@clinisciences.com
Web: <https://www.clinisciences.com>



Netherlands

Company: CliniSciences B.V.
Address: Kraaijenhoffstraat 137A,
1018RG Amsterdam, Netherlands
Telephone: +31 85 2082 351
Fax: +31 85 2082 353
Email: nederland@clinisciences.com
Web: <https://www.clinisciences.com>



Norway

Company: CliniSciences ApS
Address: Oesterbrogade 226, st. 1,
Copenhagen, 2100 - Denmark
Telephone: +45 89 888 349
Fax: +45 89 884 064
Email: norge@clinisciences.com
Web: <https://www.clinisciences.com>



Poland

Company: CliniSciences sp.Z.o.o.
Address: ul. Rotmistrza Witolda Pileckiego 67
lok. 200 - 02-781 Warszawa -Poland
Telephone: +48 22 307 0535
Fax: +48 22 307 0532
Email: polska@clinisciences.com
Web: <https://www.clinisciences.com>



Portugal

Company: Quimigen Unipessoal LDA
Address: Rua Almada Negreiros, Lote 5, Loja 14,
2615-275 Alverca Do Ribatejo - Portugal
Telephone: +351 30 8808 050
Fax: +351 30 8808 052
Email: info@quimigen.com
Web: <https://www.quimigen.pt>



Spain

Company: CliniSciences Lab Solutions
Address: C/ Hermanos del Moral 13
(Bajo E), 28019, Madrid - Spain
Telephone: +34 91 269 40 65
Fax: +34 91 269 40 74
Email: espana@clinisciences.com
Web: <https://www.clinisciences.com>



Sweden

Company: CliniSciences ApS
Address: Oesterbrogade 226, st. 1,
Copenhagen, 2100 - Denmark
Telephone: +45 89 888 349
Fax: +45 89 884 064
Email: sverige@clinisciences.com
Web: <https://www.clinisciences.com>



Switzerland

Company: CliniSciences Limited
Address: Marktgasse 18 8302 Kloten -
Switzerland
Telephone: +41 (044) 805 76 81
Fax: +41 (044) 805 76 75
Email: switzerland@clinisciences.com
Web: <https://www.clinisciences.com>



UK

Company: CliniSciences Limited
Address: 11 Progress Business center, Whittle
Parkway, SL1 6DQ Slough- United Kingdom
Telephone: +44 (0)1753 866 511
or +44 (0) 330 684 0982
Fax: +44 (0)1753 208 899
Email: uk@clinisciences.com
Web: <https://www.clinisciences.com>



USA

Company: Biotrend Chemicals LLC
Address: c/o Carr Riggs Ingram,
500 Grand Boulevard, Suite 210 Miramar
Beach, FL 32550- USA
Telephone: +1 850 650 7790
Fax: +1 850 650 4383
Email: info@biotrend-usa.com
Web: <https://www.biotrend-usa.com>

