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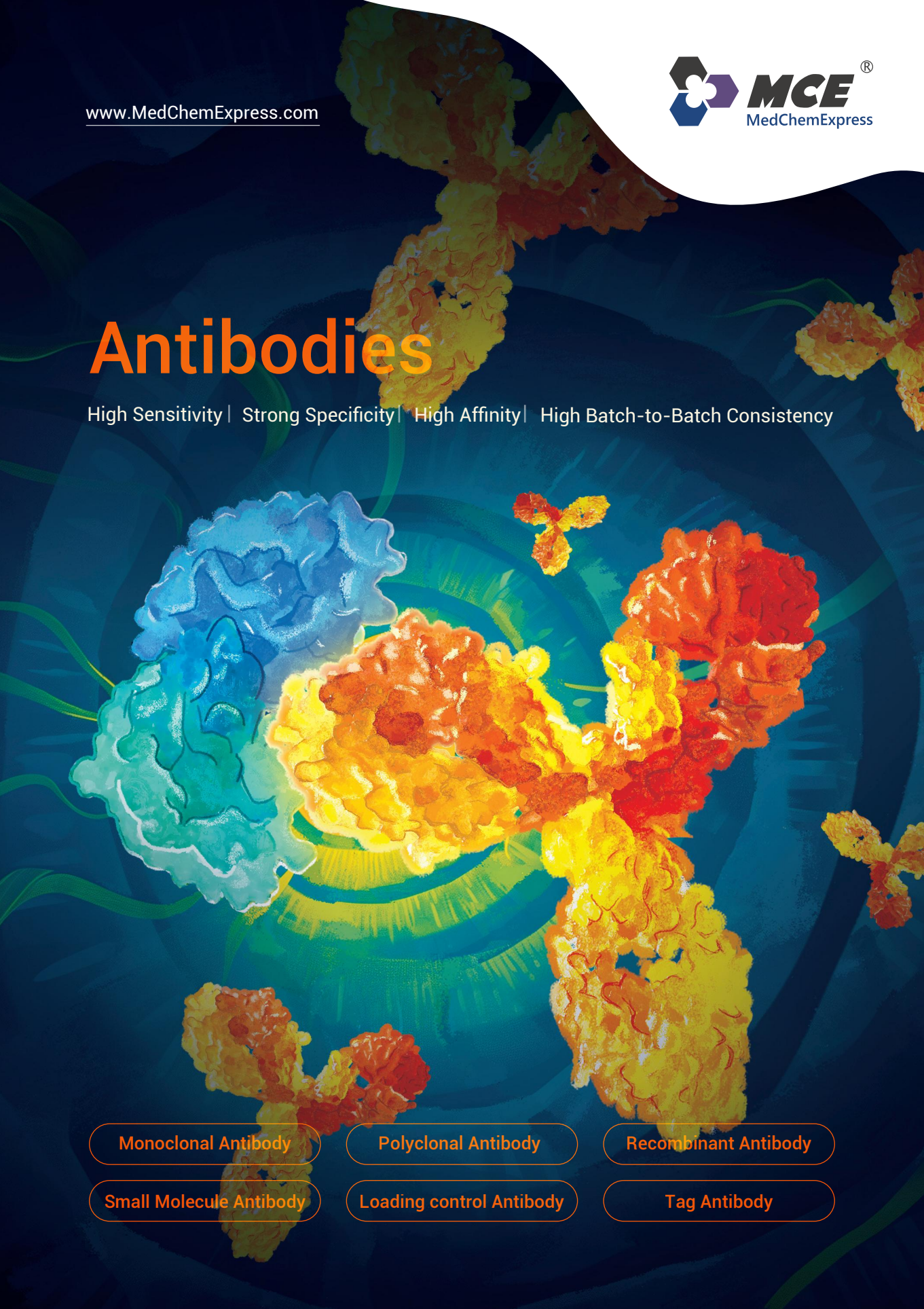
Antibodies

High Sensitivity | Strong Specificity | High Affinity | High Batch-to-Batch Consistency



Monoclonal Antibody

Polyclonal Antibody

Recombinant Antibody

Small Molecule Antibody

Loading control Antibody

Tag Antibody

MedChemExpress

MedChemExpress (MCE) stands as a leading global brand in the field of life sciences, offering a wide range of **high-purity small molecules**, **highly potent large molecules**, and a diverse selection of widely used **biological reagents** and **assay kits**. Furthermore, MCE extends its reach to scientists worldwide by providing **professional technical services**, including one-stop drug screening and compound customization.

With a robust R&D team and a stringent quality control system, MCE is committed to delivering 24/7 professional and attentive service to its customers. MCE's unwavering dedication to serving scientific research with stable, high-quality products and pioneering solutions underscores MCE's commitment to advancing human scientific research and pharmaceutical development.

80,000+ High Purity Small Molecules

- Specific Inhibitors & Agonists
- Natural Products
- Isotope-Labeled Compounds
- Fluorescent Dyes/ Probes
- GMP Small Molecules
- Reference Standards
- PROTACs & Molecular Glues
- Click Chemistry
- Biochemical Assay Reagents
- Personalized Customization

60,000+ High Activity Biological Large Molecules

- Recombinant Proteins
- Peptides
- Primary & Secondary Antibodies
- Inhibitory Antibodies
- Oligonucleotides
- Enzymes
- Antibody-drug Conjugates/ ADC Related
- Personalized Customization

MCE One-Stop Drug Screening Platform

Compound Libraries

- Ready-to-Use Compound Libraries
- Diversity Compound Libraries
- Fragment Libraries, etc.
- Customized Libraries

Screening Services

- Virtual Screening
- DEL Screening
- SPR Assay Service, etc.

Lead Compound Optimization

High Efficiency Biological Kits

- Inhibitor Cocktails
- RT/qPCR & PCR Master Mix
- Magnetic Beads & Agarose
- Protein Biology
- 2D/3D Cell Culture
- Cell Analysis

Strict Quality System

- Equipped with a professional experimental center and strict quality control system
- Provide various quality inspection reports such as HNMR, LC/MS, HPLC, chiral analysis, elemental analysis, SDS-PAGE, SEC-HPLC, activity detection, etc.

Bioactive Validation

- The biological activity and experimental results of MCE products have been validated by customers worldwide, and the research findings have been widely published in top-tier journals globally.

Professional & Considerate Service

- Experienced technical support team
- 24/7 Response
- Sufficient spot reserves

Top Publications Citing Use of MCE Products

Nature. 2024 Jun;630(8015):237-246.
Nature. 2024 Apr;628(8009):835-843.
Nature. 2024 Apr;628(8006):145-153.
Nature. 2024 Apr;628(8007):416-423.
Nature. 2024 May;629(8010):235-243.
Nature. 2024 Mar;627(8002):149-156.
Nature. 2024 Feb;626(7998):411-418.
Nature. 2024 Feb;626(8000):874-880.
Cell. 2024 Jun 6;187(12):2935-2951.e19.
Cell. 2024 Jun 20;187(13):3390-3408.e19.
Cell. 2024 Jun 20;187(13):3409-3426.e24.
Cell. 2024 Apr 25;187(9):2288-2304.e27.
Cell. 2024 Mar 28;187(7):1701-1718.e28.
Cell. 2024 Feb 29;187(5):1223-1237.e16.
Cell. 2024 Feb 15;187(4):882-896.e17
Cell. 2024 Feb 1;187(3):712-732.e38.
Science. 2024 Mar 22;383(6689):eadj4591.
Science. 2024 Feb 2;383(6682):eadh4859.
Science. 2023 Sep 22;381(6664):eadi3448.
Science. 2023 Jun 9;380(6649):eabo2296.
Science. 2022 Dec 2;378(6623):eabo5503.
Science. 2022 Nov 18;378(6621):eabq7361.

Antibodies, also known as Immunoglobulins (Ig), are produced and secreted by plasma cells, which originate from the proliferation and differentiation of B cells. They exhibit remarkable specificity in recognizing and binding to antigens.

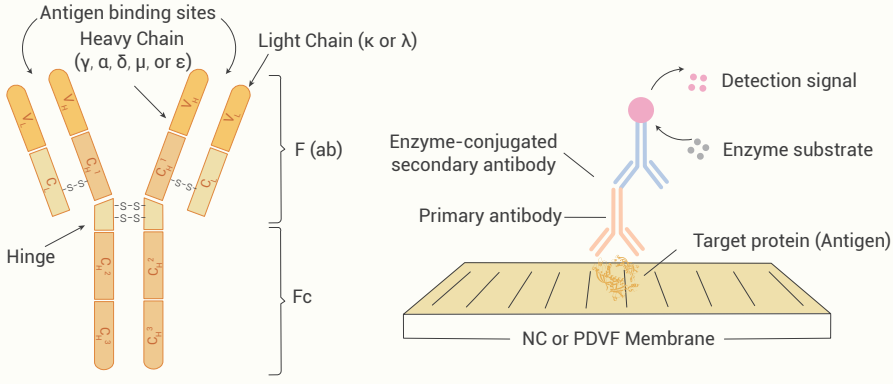


Figure 1. Antibody Structure (left) and Detection Principle (right): Antibodies can be classified into five classes based on the Fc region of their heavy chains: α-IgA, δ-IgD, ε-IgE, γ-IgG, and μ-IgM. The light chains are of two types: λ and κ (left). Primary antibodies specifically recognize and bind to antigens. Secondary antibodies recognize and bind to the primary antibodies, amplifying the signal and aiding in the detection of the antigen (right).

MedChemExpress (MCE) Product Highlights

MedChemExpress (MCE) offers **4,000+** premium **primary antibodies** and diverse high-quality secondary antibodies, coveringkey signaling pathways like autophagy, apoptosis, immunity, and cell cycle pathways, addressing popular targets to advance your research comprehensively.

High specificity and affinity: Recombinant rabbit monoclonal antibodies minimize nonspecific binding.

Wide applicability: Versatile for WB, IF/ICC, IHC, FC, ELISA, etc.

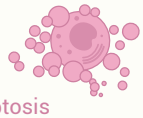
Rigorous quality control: Each antibody batch undergoes rigorous testing to ensure consistent, reliable performance.

Cell Cycle/DNA Damage

Casein Kinase 2, eIF1A, eIF4B, HDAC6, ATF6, Cdk2, Cdk4, Cdk6, Cyclin B1

Metabolic Enzymes/Proteases

HIF1, Retinoid X Receptor alpha, Ubiquitin, Cathepsin B Antibody, LXR alpha Antibody



Apoptosis

Bcl2, Cleaved-Caspase 3 p12, p53, FKBP51, FKBP52, Bak, Bax, Bcl-XL

Small Molecule Antibody

DXd, MMAE, MMAF, 3-Nitrotyrosine, DM1, DM4

Small Molecule Antibody

xCT, DHCR7, Transferrin Receptor 1, Ferritin Heavy Chain

Autophagy

ATG10, ATG3, ATG4A, Beclin 1, LAMP2, ULK1, FOXO3a, ATG5

Top Selling Products

Primary Antibodies: Antibodies that specifically bind to target antigens with high specificity and affinity, widely used for protein detection, purification, and quantification.

Autophagy			Apoptosis		
Product Name	Application	Reactivity	Product Name	Application	Reactivity
HY-P80555 ATG10 Rabbit mAb	WB, IP	Human	HY-P80566 Bcl2 Rabbit mAb	WB, IHC-P	Human, Mouse
HY-P80556 ATG3 Rabbit mAb	WB, IHC-F, IH HC-P, ICC/IF	Human Mouse, Rat	HY-P80623 Cleaved-Caspase 3 p12 Rabbit mAb	WB, ICC/IF	Human, Mouse,Rat
HY-P80557 ATG4A Rabbit mAb	WB, IHC-P, IP	Human	HY-P80257 p53 Rabbit mAb	WB, ICC/IF, IHC-P, IP	Human
HY-P80132 FOXO1A Rabbit mAb	WB, ICC/IF, IHC-P	Human, Mouse	HY-P80050 Caspase-9 Rabbit mAb	WB, ICC/IF, IHC-P, IP, FC	Human, Mouse

Cell Cycle/DNA Damage			Metabolic Enzyme/Protease		
Product Name	Application	Reactivity	Product Name	Application	Reactivity
HY-P80586 Casein Kinase 2 beta Rabbit mAb	WB, IHC-F, IH C-P, ICC/IF, IP	Human Mouse, Rat	HY-P80705 HIF1 beta Rabbit mAb	WB, IHC-P	Human, Mouse, Rat, Hamster
HY-P80649 eIF1A Rabbit mAb	WB, IHC-F, IH C-P, ICC/IF, IP	Human Mouse, Rat	HY-P80309 Retinoid X Receptor alpha Rabbit mAb	WB, ICC/IF, IHC-P, IP	Human, Rat
HY-P80200 JunB Rabbit mAb	WB, ICC/IF, IHC-P, IP	Human	HY-P80363 Ubiquitin Rabbit mAb	WB, ICC/IF, IHC-P, FC	Human, Mouse, Rat

Small Molecule Antibody					
Product Name	Application	Reactivity	Product Name	Application	Reactivity
HY-P81054 DXd Mouse mAb	ELISA	Species independent	HY-P81056 MMAE Rabbit mAb	ELISA	Species independent
HY-P81248 SN38 Antibody	WB, ELISA	Species independent	HY-P81057 MMAF Rabbit mAb	ELISA	Species independent

Ferroptosis			Pyroptosis		
Product Name	Application	Reactivity	Product Name	Application	Reactivity
HY-P80692 **Glutathione Peroxidase 4 Rabbit pAb**	WB, IHC-F, IHC-P, ICC/IF	Human, Mouse, Rat	HY-P80918 **Toll-Like Receptor 4 Rabbit pAb**	WB, FC	Human
HY-P80410 **Glutathione Peroxidase 1 Rabbit mAb**	WB, ICC/IF, IP	Human, Mouse, Rat	HY-P80413 **IKK alpha Rabbit mAb**	WB, ICC/IF, IHC-P, FC, IP	Human, Mouse
HY-P81000 **Transferrin Receptor 1 Rabbit mAb**	WB, IHC-P, IP, FC	Human, Mouse, Rat	HY-P80246 **NLRP3 Rabbit mAb**	WB, IHC-P, ICC/IF, FC	Human, Mouse, Rat
HY-P80670 **Ferritin Heavy Chain Rabbit mAb**	WB, ICC/IF	Human, Mouse, Rat, Hamster	HY-P80765 **NF-KB p65 Rabbit mAb**	WB, IHC-F, IHC-P, ICC/IF, IP	Human, Mouse
HY-P80523 **xCT Mouse mAb**	WB, IHC-P, ICC/IF, FC	Human, Mouse	HY-P80720 **IL-1 beta Rabbit pAb**	WB, IHC-P, ICC/IF	Human, Mouse, Rat

Loading Control Antibody / Tag Antibodies: Helping you to detect and identify proteins more accurately, enhancing the reliability and consistency of your experiments.

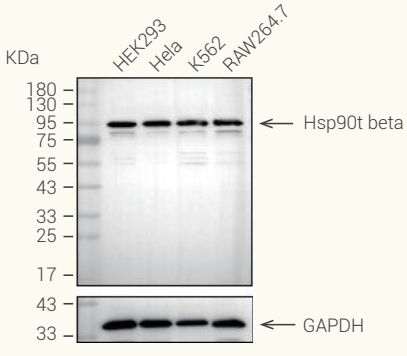
Type	Product Name	Application	Product Name	Application
Loading Control Antibody	HY-P80438 **Beta Actin Antibody**	WB, ICC/IF, IHC-P, FC	HY-P80487 **beta Tubulin Antibody**	WB, ICC/IF, IHC-P, FC
	HY-P80993 **Beta Actin Antibody (HRP)**	WB	HY-P80955A **beta Tubulin Antibody (HRP)**	WB
	HY-P80954 **GAPDH Antibody**	WB	HY-P80166 **Histone H3 Antibody**	WB, ICC/IF, IHC-P, ChIP
	HY-P80954A **GAPDH Antibody (HRP)**	WB, ELISA	HY-P80537 **ATP1A1 Antibody**	WB, IHC-P, ICC/IF, FC
Tag Antibody	HY-P80959 **6X His-tag Antibody**	WB, IP	HY-P80948 **HA-tag Antibody**	WB, IP
	HY-P80232 **Myc-tag Antibody**	WB, ELISA, IP	HY-P80141 **GFP Antibody**	WB, ICC/IF, IHC-P, IP
	HY-P80111 **DYKDDDDK-tag (FLAG) Antibody**	WB, ICC/IF, IP	HY-P81039 **Strep-tag II Antibody**	WB, ICC/IF, IP
	HY-P80148A **GST-tag Antibody**	WB, ICC/IF, IP	HY-P80367 **V5-tag Antibody**	WB, ELISA

Secondary Antibodies: These bind to primary antibodies to amplify signals and enhance detection flexibility. They transmit signals to detection systems, allowing for more versatile labeling and detection.

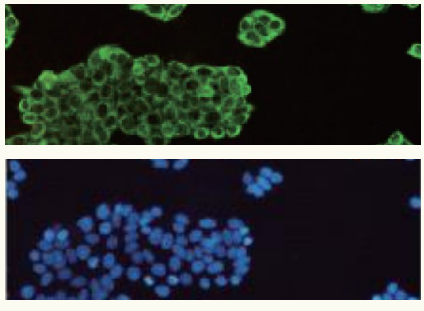
Conjugation	Product Name	Conjugation	Product Name
HRP	HY-P8001/ HY-P8004 **Goat Anti-Rabbit/ Mouse IgG H&L (HRP Conjugate)**	Cy7	HY-P81021/ HY-P81020 **Goat Anti-Rabbit/ Mouse IgG H&L (Cy7 Conjugated)**
Biotin	HY-P80953/ HY-P80949 **Goat Anti-Rabbit/ Mouse IgG H&L (Biotin Conjugate)**	Alexa Fluor® 488	HY-P8002/ HY-P8005 **Goat Anti-Rabbit/ Mouse IgG H&L (Alexa Fluor® 488 Conjugated)**
TRITC	HY-P81007/ HY-P81008 **Goat Anti-Rabbit/ Mouse IgG H&L (TRITC-Conjugated)**	Alexa Fluor® 405	HY-P81015/ HY-P81014 **Goat Anti-Rabbit/ Mouse IgG H&L (Alexa Fluor® 405 Conjugated)**
FITC	HY-P80951/ HY-P80950 **Goat Anti-Rabbit/ Mouse IgG H&L (FITC Conjugate)**	Alexa Fluor® 594	HY-P8003/ HY-P8006 **Goat Anti-Rabbi/ Mouse t IgG H&L (Alexa Fluor® 594 Conjugated)**
Cy3	HY-P81017/ HY-P81016 **Goat Anti-Rabbit/ Mouse IgG H&L (Cy3 Conjugated)**	Alexa Fluor® 647	HY-P80952/ HY-P81013 **Goat Anti-Rabbit/ Mouse IgG H&L (Alexa Fluor® 647 Conjugated)**

Experiment Validation

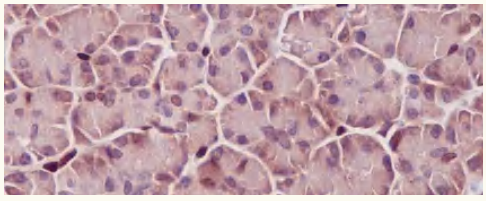
Endogenous Immunological Verification:



- Primary Antibody: Hsp90 beta Antibody (HY-P80187)
- Secondary Antibody: HRP-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) (HY-P8001)
- Loading Control Antibody: GAPDH Antibody (HRP) (HY-P80954A)

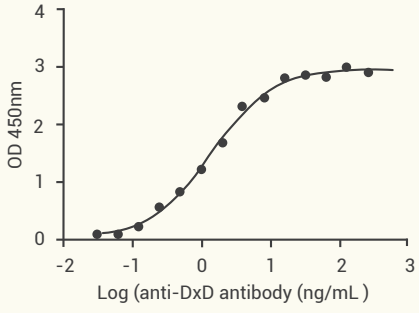


- Immunofluorescence analysis of Hsp90 alpha in Hela cells.
- Primary Antibody: Hsp90 alpha/beta Antibody (HY-P80714)
- Secondary Antibody: FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) (HY-P80951)



· Immunohistochemical analysis of Phospho-STAT3 on paraffin-embedded human pancreas tissue.
· Primary Antibody: Phospho-STAT3 Antibody (HY-P80857)
· Secondary Antibody: HRP-conjugated AffiniPure Goat Anti-Rabbi IgG (H+L) (HY-P8001)

ELISA Validation:

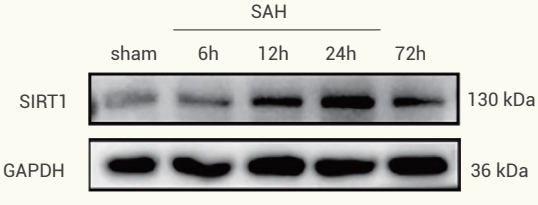


The Binding Activity of T-DXd(DS-8201) with DXd antibody.
Activity: Measured by its binding ability in a functional ELISA.
Immobilized T-DXd(DS-8201) at 2 μg/mL can bind DXd antibody (HY-P81054), the EC_{50} is 1.120 to 1.566 ng/mL.

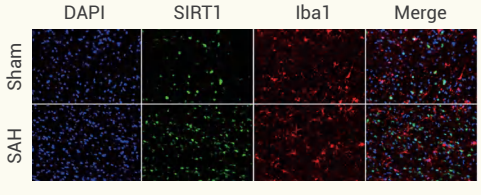
Customer Validations

1. HY-P80319: SIRT1 Antibody

J Inflamm Res. 2024 Mar 28:17:1971-1981. **Reactivity:** Human, Mouse; **Application:** WB, IF



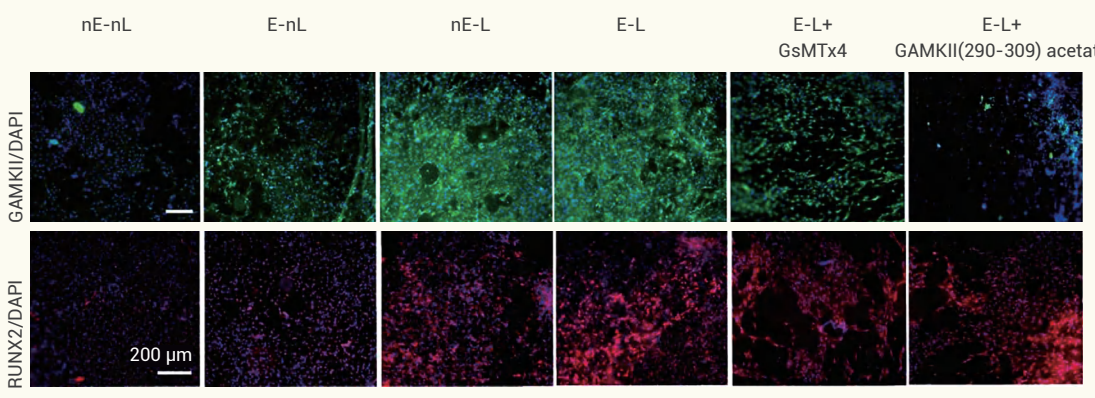
Western blot showed SIRT1(HY-P80319) expression increased at 6 h and reached a peak at 24 h after SAH, and then decreased at 72 h.



Co-staining of SIRT1 (green, HY-P80319) and Iba1 (red) demonstrated that SIRT1 was upregulated in microglia 24 h after SAH.

2. RUNX2 Antibody (HY-P80445) +CaMKII alpha Antibody (HY-P80316)

Appl Mater Today. 2024 Feb, 36, 102026. Reactivity: Human; Application: IF



Immunofluorescence staining was used to evaluate the CAMKII (green) and RUNX2 (red) differentiation at the protein level.

Antibody Selection Tips

Primary Antibody Selection:

1. **Target Protein:** Confirm the name of the target protein for your research (verify Gene ID).

2. **Reactivity:** Ensure the antibody's reactivity includes the species of your sample.

3. **Application:** Confirm that the antibody's application as stated in the instruction datasheet covers the experiments you intend to perform.

Secondary Antibody Selection:

1. **Host species:** The secondary antibody must be raised against the host species of the primary antibody. For instance, if the primary antibody was derived from mice, ensure the secondary antibody targets the mouse antibody (secondary antibodies can be sourced from a different species, eg. goat, rabbit, etc.).

2. **Conjugates:** Select the conjugated label for the secondary antibody based on different applications.

Application	Labeling types
WB/ELISA	Enzyme Labeling (HRP/AP) / Biotin Labeling / Fluorescent Labeling
IHC	Enzyme Labeling (HRP/AP) / Biotin Labeling
IF/ICC	Biotin Labeling / Fluorescent Labeling
FC	Biotin Labeling / Fluorescent Labeling

What are the requirements for antibodies in different experiments?

WB

WB (Western Blotting): Antibodies used in WB need to recognize the primary structures after protein denaturation after heating. Typically, antibodies are obtained by immunization with highly specific synthetic peptide sequences as antigens, thus ensuring high specificity.

IP/ChIP

IP/ChIP (Immunoprecipitation/Chromatin Immunoprecipitation): For IP, antibodies should recognize the native conformation of the antigen to facilitate binding and precipitation. Therefore, antibodies used in IP are preferably made from purified native proteins or recombinant proteins. ChIP is similar to IP, except that if the antibody recognizes a site where the protein binds to DNA, it may interfere with binding and lead to biased or failed experimental results.

IF/IHC

IF/IHC (Immunofluorescence/Immunohistochemistry): In these techniques, cells or tissue samples are immersed in fixatives that permeate cell membranes and react with biomolecules like proteins and nucleic acids, causing protein denaturation and fixation. Unlike WB, where heating causes complete denaturation, IF and IHC involve mild denaturation, preserving the spatial conformation of proteins. Therefore, antibodies used in IF/IHC can be purified recombinant proteins or synthetically derived peptides (with peptides exposed on the protein surface).

FC

FC (Flow Cytometry) experiments include both live cell analysis and fixed cell analysis, each with different antibody requirements. For live cell flow cytometry, antibodies against native or recombinant proteins are preferred, as they can recognize antigens on the cell surface or intracellularly, providing accurate and reliable information. For fixed cell analysis, antibody requirements are similar to those for IF/IHC experiments.

Antibody Selection Q&A:

Q: If my antibody works well in WB, can it be used for IF, IHC, and other experiments?

A: Not necessarily. The antibody may only target linear epitopes of the protein, with the antigenic peptide possibly buried inside the protein, thus recognizing only linear regions in WB.

Q: Can an antibody used for ChIP be used for WB?

A: Not necessarily. While most antibodies suitable for ChIP can be used for WB, those recognizing a conformational epitope (where sequences are spatially close but distant in a linear sequence) may not work for WB. Similarly, antibodies used for IP might not be suitable for WB, and those for IHC-P (with antigen retrieval) might not suit IHC-F (without retrieval).

Q: What should I do if the antibody datasheet does not specify its suitability for a particular experiment?

A: Proceed cautiously. Typically, the absence of specification indicates either the antibody hasn't been validated for that experiment or the validation results were unsatisfactory.

More References

Product Name	Application	Reactivity	References
HY-P80043 Calreticulin Antibody	IF	Human	**Adv Funct Mater.** 2024 Jan 23. (doi: 10.1002/adfm.202314568)
HY-P80334/HY-P80846 SOX2 Antibody; Phospho-PI3 Kinase p85/p55 (Tyr467/Tyr199) Antibody	WB	Human, Mouse	**Endocrine.** 2024 Jan 10. (doi: 10.1007/s12020-023-03674-3.)
HY-P81234 Ki-67 Antibody	IHC	Mouse	**Invest Ophthalmol Vis Sci.** 2024 Feb 1;65(2):34.
HY-P80920 TREM2 Antibody	WB	Mouse	**Phytomedicine.** 2024 Jan 28, 155320.
HY-P80548 ASC Antibody	WB	Mouse	**Curr Eye Res.** 2024 Mar 7:1-10.
HY-P80865 PI3 Kinase p110 gamma Antibody (YA690)	WB	Human	**Arch Biochem Biophys.** 2024 May:755:109965.
HY-P80843 Phospho-p53 (Ser37) Antibody	WB	Human	**Cell Cycle.** 2024 Feb;23(3):308-327.

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