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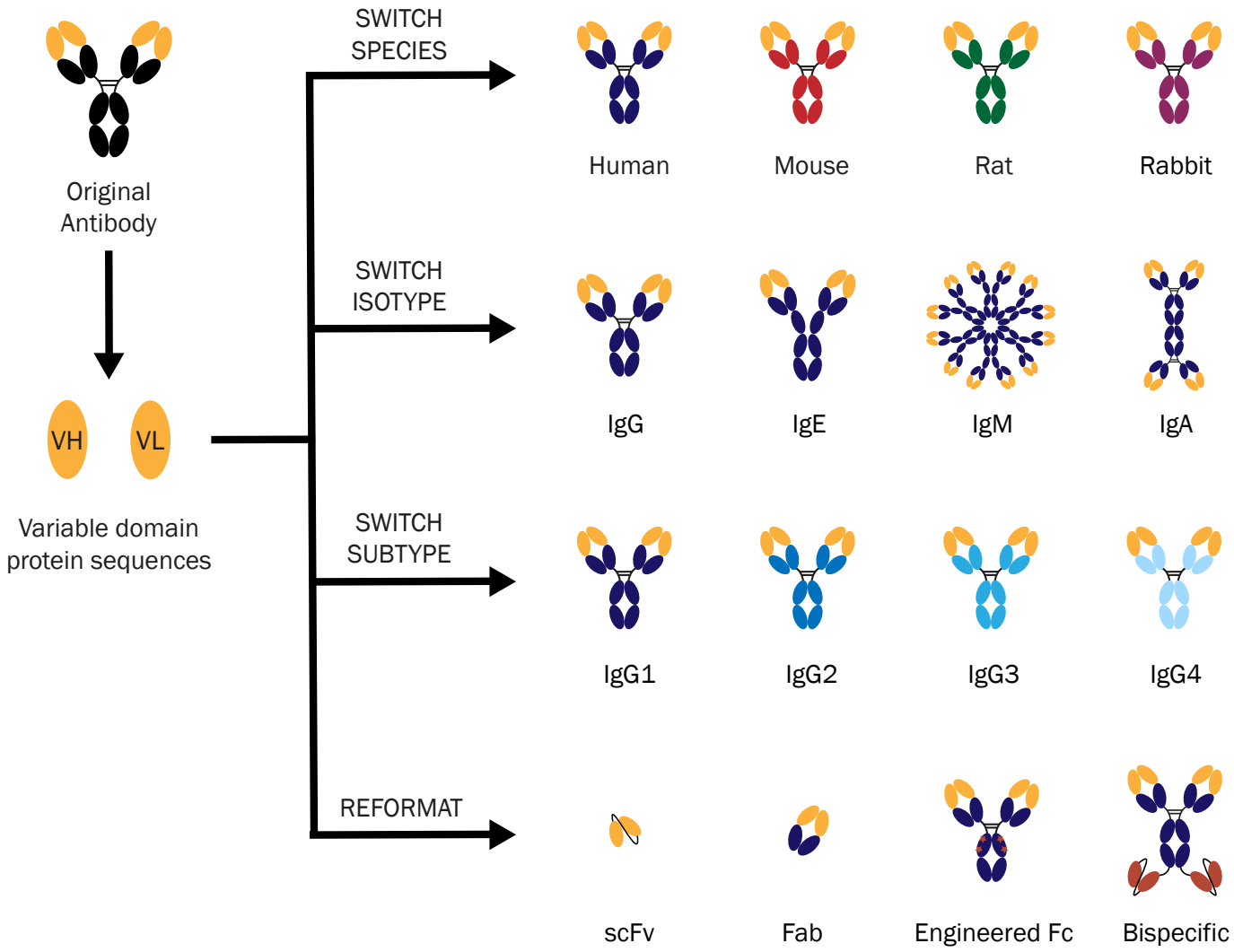
Recombinant Antibody Catalog



Engineered Recombinant Antibodies to Advance Your Research

absolute antibody
an Absolute Biotech Company

Recombinant Antibody Catalog

Absolute Antibody was founded in 2012 with a vision to make recombinant antibody technology accessible to all. We offer a unique catalog of engineered recombinant antibodies and Fc Fusion proteins, as well as antibody sequencing, engineering and recombinant production as royalty-free custom services.

Engineered Antibodies for All.

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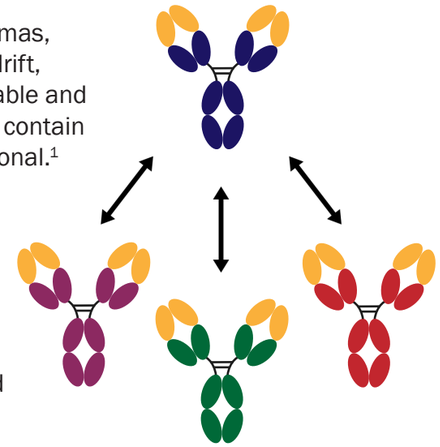
Why Go Recombinant?



Most reagent monoclonal antibodies are generated from hybridomas, which suffer from various limitations. They can undergo genetic drift, leading to batch-to-batch variability; they can be genetically unstable and stop expressing the antibody; and more than 30% of hybridomas contain additional antibody genes, meaning they are not actually monoclonal.[1]

In contrast, recombinant antibodies are manufactured *in vitro* using defined synthetic genes. They offer a variety of benefits compared to traditional hybridoma-produced antibodies:

- **Ensured reproducibility**
  Recombinant antibodies are absolutely defined by amino acid sequence, ensuring batch-to-batch reproducibility.
- **High purity**
  Our recombinant antibodies are expressed in a chemically defined, serum-free mammalian expression system, resulting in highly pure antibodies with low endotoxin levels.
- **Supply chain security**
  Unlike hybridomas, recombinant antibodies are not susceptible to contamination, genetic drift or accidental loss. With a known sequence, they can always be reproduced for further use.
- **Animal-free manufacturing**
  Our recombinant antibodies are produced *in vitro* using synthetic genes, an entirely animal-free process. This alleviates animal welfare concerns associated with traditional antibody manufacturing.
- **Added antibody value**
  Recombinant antibodies can be engineered into new formats, extending antibody usefulness and opening up new experimental possibilities for *in vitro* and *in vivo* use.

Why use an engineered format for your antibody?

- ✓ Switch species to reduce immunogenicity *in vivo*, increase compatibility with a secondary antibody, or enable easier co-labeling studies
- ✓ Switch isotypes or subtypes to tailor effector function, reduce the number of needed controls, or further research into non-IgG antibodies
- ✓ Choose an Fc Silent™ format to remove effector function *in vivo* and reduce non-specific background in staining methods
- ✓ Select an antibody fragment to enable better tissue penetration, reduce non-specific binding, and increase antibody stability and solubility

1. Bradbury, et al. MAbs. 2018 May/Jun;10(4):539-546.

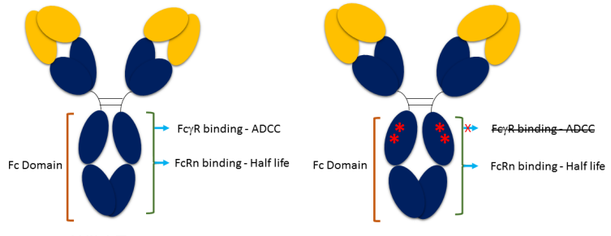
Unique Antibody Formats

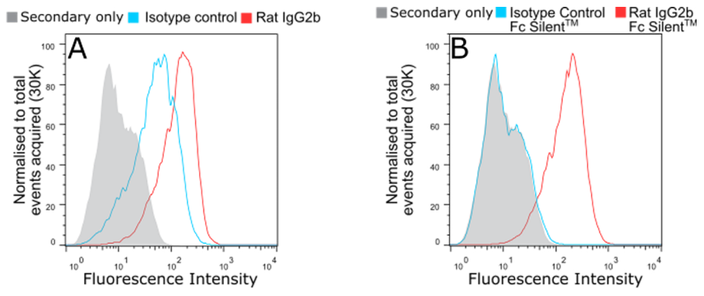
At Absolute Antibody, we build our reagents catalog by sequencing existing monoclonal antibodies, producing recombinant versions, and engineering the antibodies into new formats to increase experimental flexibility. One proven clone thus becomes available in a variety of unique formats unavailable in any other reagents catalog.

Read on to learn about several novel formats enabled by our recombinant antibody technology. Looking for something not listed in our catalog? Get in touch — if you can describe it, we can make it!

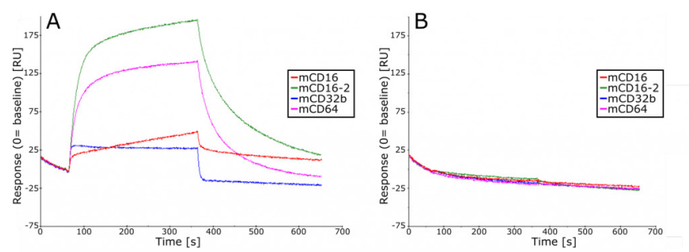
Fc Silent™ Antibodies

Fc Silent™ antibodies have a genetically engineered Fc domain with key point mutations that abrogate binding of Fc receptors and abolish antibody directed cytotoxicity (ADCC) effector function. This enables researchers to remove effector function *in vivo* and reduce non-specific background in staining methods.





Flow cytometry of BMDMs stained with wild type (A) and Fc Silent™ (B) anti-F4/80 (Ab00106-8.1 and Ab00106-8.4) and isotype control antibodies, followed by fluorescently conjugated goat anti-rat secondary antibody. Using Fc Silent™ abolishes non-specific FcγR driven staining, making data cleaner and more accurate.

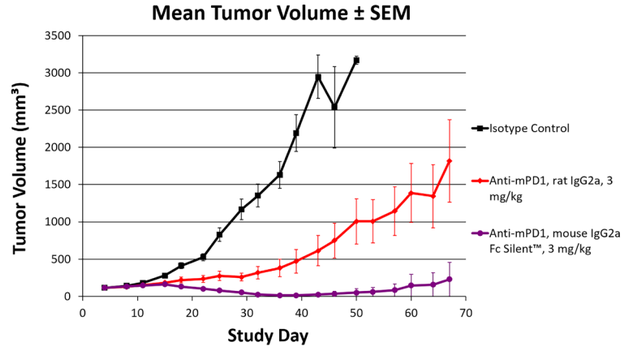


Sensogram showing binding of rat wild type (A) and Fc Silent™ (B) anti-F4/80 antibodies (Ab00106-8.1 and Ab00106-8.4) to immobilized murine FcγRs. BIAcore SPR binding analysis shows that the Fc Silent™ antibody has been engineered to have no interaction with FcγRs.

VivopureX™ *In Vivo* Antibodies

VivopureX™ antibodies are mouse-anti-mouse antibodies ideal for *in vivo* research in mouse models, available against a range of immunotherapy targets. The engineered chimeric antibodies provide reduced immunogenicity *in vivo* and tailored effector function, improving long-term efficacy.

In the example to the right, a recombinant mouse-anti-mouse PD-1 antibody based on the widely used clone RMP1-14 was able to reduce tumor size in mouse models more effectively than the traditional rat antibody. VivopureX™ antibodies are available in our catalog at bulk-discounted prices.

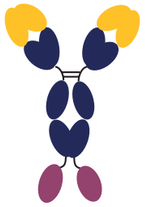


Mean tumor sizes in animals treated with PD-1 mouse IgG2a Fc Silent™ antibody (Ab00813-2.3) are significantly smaller than in animals treated with the traditional rat IgG2a antibody (Ab00813-7.1), in particular as the study progressed.

Murine Bispecific Antibodies

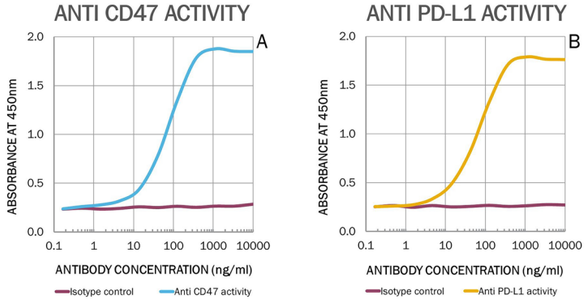
Absolute Antibody offers murine bispecific antibody reagents to enable easier evaluations of potential bispecific combinations in mouse models. Customers can purchase bispecific antibodies from our catalog off-the-shelf, or mix-and-match targets from the catalog to build their own custom reagent.

- Fully murine backbone for low immunogenicity in mouse models
- Two formats available: IgG-dAb and knob-into-hole (KIH)
- Defined stoichiometry of binding regions
- Can be engineered with a silenced Fc domain
- Low endotoxins and high purity for *in vivo* research



IgG-dAb

Knob-into-hole (KIH)

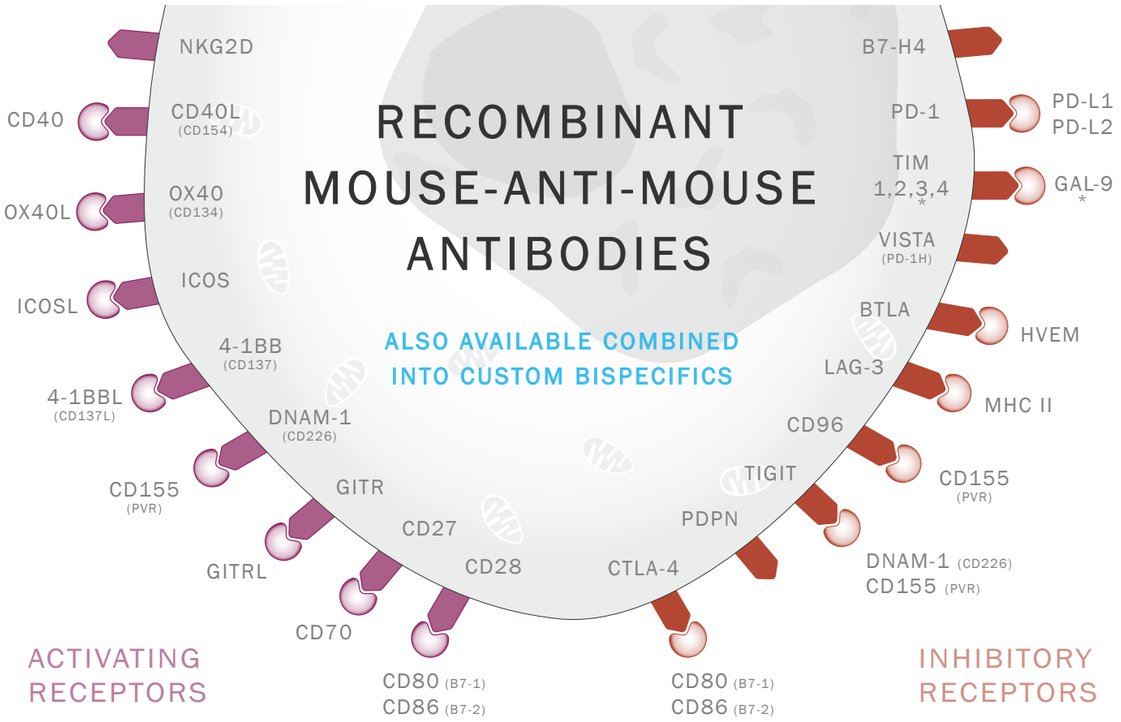


ELISA data showing binding activity of our CD47/PD-L1 bispecific antibody to murine CD47 (A) and murine PD-L1 (B) relative to an antibody isotype control.

Immunotherapy Research Antibodies

Absolute Antibody offers recombinant engineered antibodies against clinically relevant immune checkpoints, including mouse homologues of current therapeutic targets. The collection consists of proven antibody clones, updated through antibody engineering for improved performance *in vivo*.

- Reduce immunogenicity by matching antibody species to your host organism
- Tailor effector function by choosing from a range of antibody isotypes and subtypes
- Many clones available at bulk-discounted prices in our VivopureX™ collection
- Below diagram illustrates key antibody targets from our catalog, such as PD-1, TIGIT and CTLA-4
- Also available for *in vivo* use are antibodies against growth factors (e.g., VEGF), chemokines (e.g., CXCR3), natural killer cell markers (e.g., NK1.1, NKG2D, NKp46), and cytokines and their receptors (e.g., IFN gamma, IFN gamma R, IL-2, IL-2R, IL-4, IL-10R, IL-23)



Related Reagents: Fc Fusion Proteins

Fc fusion proteins are composed of the Fc domain of IgG genetically linked to a protein of interest. They prolong the plasma half-life of a protein *in vivo* and can also be used for *in vitro* research. Our catalog includes Fc fusion proteins matched to our immunotherapy antibody targets.

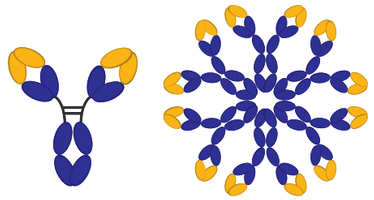
Research-Grade Biosimilars

Our research-grade biosimilars remove the need to source costly therapeutic-grade biologics. They are free of excipients and available with mouse, rabbit, rhesus monkey and cynomolgus monkey constant domains, in addition to the original human formats. Available antibodies include:

Antibody	Target	Expected Species Reactivity
Abciximab	CD41	Human
Adalimumab	TNF alpha	Human
Arcitumomab	Carcinoembryonic antigen (CEA)	Human
Basiliximab	IL-2R alpha (CD25)	Human; Rhesus Monkey; Cynomolgus Monkey
Bevacizumab	VEGF	Human
Briakinumab	IL-12/23	Human
Campath-1G and 1H	CD52	Human; Rhesus Monkey; Cynomolgus Monkey
Campath-6	CD25	Human
Campath-9H	CD4	Human
Cetuximab	EGFR	Human
Clenoliximab	CD4	Human; Chimpanzee
Daclizumab	IL-2R	Human; Rhesus Monkey; Cynomolgus Monkey
Drozitumab	DR5	Human
Eculizumab	C5	Human
Efalizumab	CD11a	Human
EP3-1	CD98	Human
Epratuzumab	CD22	Human; Rhesus Monkey; Cynomolgus Monkey
Felvizumab	RSV	RSV
Galiximab	CD80	Human
Gemtuzumab	CD33	Human
Humicade	TNF alpha	Human
Infliximab	TNF alpha	Human
JOVI.1	V(beta)3 TCR	Human
Matuzumab	EGFR	Human
Minretumomab	TAG-72	Human
Mogamulizumab	CCR4	Human
MT310	CD4	Human; Rhesus Monkey; Cynomolgus Monkey
Muromonab	CD3 epsilon	Human
Natalizumab	Integrin alpha 4	Human
Nimotuzumab	EGFR domain III	Human
Nivolumab	PD-1	Human; Cynomolgus Monkey
Omalizumab	IgE	Human
Oxelumab	OX40L	Human
Pateclizumab	Lymphotoxin alpha	Human
R-125224	Fas	Human
Rituximab	CD20	Human; Rhesus Monkey; Cynomolgus Monkey
Ruplizumab	CD40L	Human
Satumomab	Tumor associated glycoprotein (TAG) 72	Human
Tabalumab	CD257 (BAFF)	Human; Cynomolgus Monkey; Rabbit
TES-C21	IgE	Human
Tocilizumab	IL-6R	Human
Toralizumab	CD154	Human
Trastuzumab	erbB-2 (Her-2/neu)	Human
Volociximab	alpha 5 beta 1 Integrin	Human
Zalutumumab	EGFR	Human
2-D03	oxLDL	Human

Virus Research Antibodies

Absolute Antibody offers a range of recombinant antibodies against viral antigens. Our catalog focuses on antibodies against flaviviruses (such as Zika or dengue), filoviruses (such as Ebola or Marburg), and alphaviruses (such as VEEV or chikungunya), as well as a wide variety of antibodies specific to key infectious diseases, such as HIV, hepatitis and influenza. Viral species in our catalog include:



- Avian Infectious Bronchitis
- Bovine Coronavirus
- Canine Distemper Virus
- Canine Parvovirus
- CCHFV
- Cedar Virus
- Chikungunya
- Coxsackievirus
- Cytomegalovirus (CMV)
- Dengue
- Ebola
- Epstein-Barr Virus
- Feline Calicivirus
- Feline Herpes Virus
- Feline Panleukopenia
- Flaviviridae
- Ghana Virus
- Hantavirus
- Hendra Virus
- Hepatitis A, B, C and E
- Herpes
- HIV
- Human Papillomavirus
- Human Polyomavirus
- Infectious Bursal Disease
- Influenza A and B
- Japanese Encephalitis
- Junin Virus (JUNV)
- La Crosse Bunyavirus
- Lassa Virus
- Marburg Virus
- MERS-CoV
- Metapneumovirus
- Mojiang Virus
- Monkeypox
- Murine Leukemia Virus
- Mycobacterium Leprae
- Nipah Virus
- Norovirus
- Orthopoxvirus
- Poliovirus
- Porcine Retrovirus
- Poxvirus
- Pseudorabies Virus
- Rabies
- Ross River Virus
- Rotavirus
- RSV
- Rubella
- Saint Louis Encephalitis
- SARS-CoV
- SARS-CoV-2 (COVID-19)
- Sendai Virus
- SFTS Virus
- SIV
- Tick-borne Encephalitis
- Vaccinia Virus
- Varicella Zoster Virus
- Venezuelan Equine Encephalitis Virus (VEEV)
- Vesicular Stomatitis Virus
- West Nile Virus
- Western Equine Encephalitis Virus (WEEV)
- Yellow Fever
- Zika

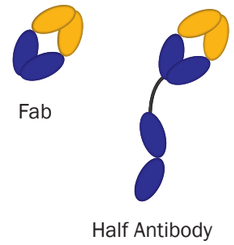
Spotlight On: Double-Stranded RNA (dsRNA) Antibodies

We offer three dsRNA clones – J2, 9D5 and 1D3 – in different engineered formats. The antibodies provide highly specific detection of dsRNA intermediates from a diverse range of viruses, and they are widely used to study viral life cycle and anti-viral responses.

DNA/RNA Research Antibodies

We offer a collection of engineered recombinant antibodies for DNA/RNA research, with targets ranging from classic nucleotide structures, to modified nucleotide bases, to more recently discovered structures such as DNA/RNA G-quadruplexes. Targets in our catalog include:

- Cisplatin Modified DNA
- DNA/RNA G-quadruplex
- DNA/RNA Hybrid [S9.6]
- dsRNA
- Hairpin DNA
- i-motif DNA
- N6-methyladenosine
- Quadruplex DNA
- Single-stranded poly(rI) RNA
- ss/dsDNA
- Triplex DNA
- Z-DNA
- 5-Hydroxymethylcytosine
- (6-4) DNA photoproducts

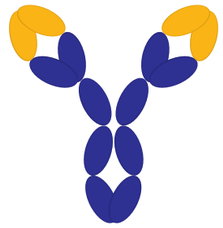


Recombinant Secondary Antibodies

We provide panels of recombinant anti-immunoglobulin antibodies in formats such as IgG, IgM, IgA, IgE and IgD, as well as anti-kappa and lambda light chain antibodies. The antibodies are available in species including humans, non-human primates, mice, rabbits and more. They are particularly useful for detecting primary antibodies and diagnostic applications.

Allergy Research Antibodies

Absolute Antibody offers a variety of recombinant antibodies against common allergens, such as nuts, dust mites and bees. The antibodies are available in different species and isotypes, in particular human IgE for use as calibrators and positive controls. We also offer antibodies against IgE itself, as well as recombinant IgE proteins. Allergen species in our catalog include:



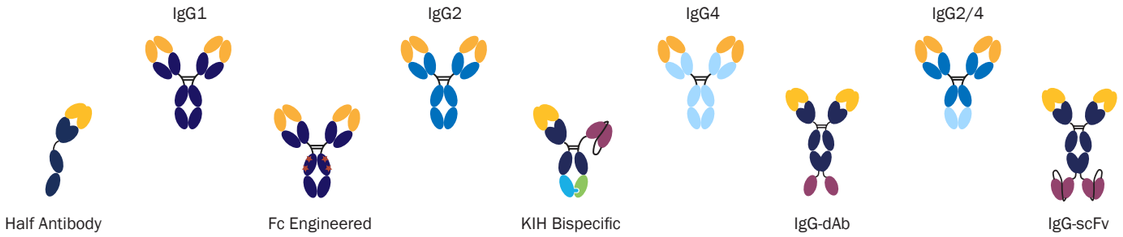
- *A. fumigatus*
- Almond
- Amphibia
- Birch
- Cashew
- Cat
- Celery
- Coconut
- Cow
- Dog
- Dust Mites
- Egg
- German Cockroach
- Gluten
- Honeybee
- Lupin
- Macadamia
- Peanut
- Rubber Tree
- Timothy Grass
- Soy

Recombinant Isotype Controls

As therapeutic antibodies are produced with increasingly diverse formats, a new generation of antibody controls is required to ensure meaningful experimental results. Absolute Antibody offers standardized panels of isotype controls in many formats, ideal for biologics development and pre-clinical testing.

Our isotype controls are derived from four antibodies – anti-NP, anti-fluorescein, anti-beta galactosidase and an antibody called MOPC-21 with unknown specificity – and are available with the following:

- Human, mouse, rat, rabbit, hamster and other species isotypes, in any IgG subtype and allotype
- Engineered Fc domains, including IgG1 LALA, IgG4 S288P, IgG2/4, half antibody and bispecifics
- Kappa or lambda light chains
- Fc only proteins



Isotype controls available in our catalog. Isotype controls are negative controls with the same Fc region as the experimental antibody, but with a variable region that does not bind antigen, to control for non-specific background staining.

Promo alert! Save up to 50% on isotype controls if you purchase together with a linked antibody.

Epitope Tag Antibodies

Our epitope tag antibody collection includes widely used clones, now recombinantly produced for ensured reproducibility and engineered into multiple species and isotypes to suit your experiment. Available targets include:

- Biotin
- c-myc epitope tag
- DDDDK tag
- EE tag
- GCN4
- GSTP1
- HA tag
- His tag
- MBP
- Notch 1
- Podoplanin (MAP tag)
- Protein C
- RAP tag
- Rhodopsin
- Softag 1
- Strep tag II
- TK15 epitope tag
- V5 epitope tag

Antibody Services

In addition to our recombinant antibody catalog, we offer antibody sequencing, engineering and recombinant expression as royalty-free custom services to customers worldwide.

Antibody Sequencing

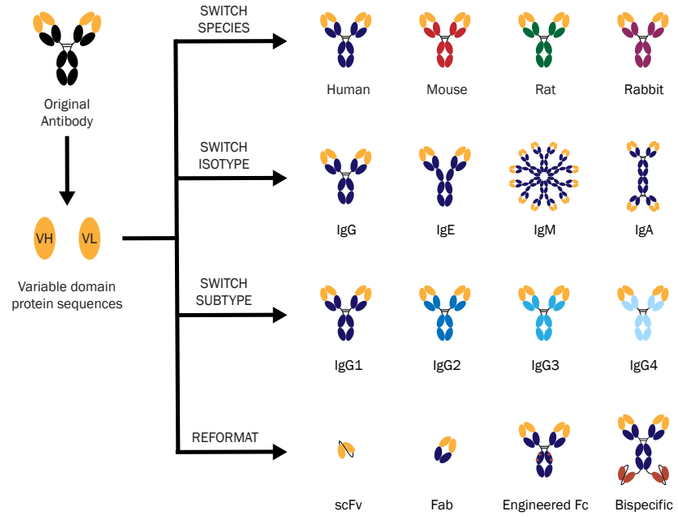
Sequence your antibodies to protect against loss, mutation and contamination, and secure your supply chain. Sequencing is also the first step toward antibody engineering and recombinant expression.

- High-throughput (NGS) hybridoma sequencing for any species or isotype; can rescue unviable cells
- Antibody protein sequencing for purified monoclonals, when hybridomas are unavailable
- No-sequence-no-fee guarantee: 5,500 hybridomas successfully sequenced

Antibody Engineering

Our proprietary cloning system enables rapid antibody reformatting. Engineering options include:

- Species, isotype and subtype switching
- Antibody fragments
- Multispecific antibodies (bispecific and trispecific)
- Antibody chimerization
- Antibody humanization
- Engineered Fc domains
- Fc fusion proteins



Antibody Expression

Our antibody expression platforms rapidly produce high-quality recombinant antibodies at milligram-to-gram scale, offering a faster, more affordable alternative to stable cell line generation.

- Serum-free mammalian transient expression (HEK or CHO cells)
- High purity and low endotoxin levels guaranteed
- All production occurs in our ISO 9001:2015-certified UK facility
- 200+ different antibody formats successfully manufactured

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https://www.stratech.co.uk/absolute-antibody/

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