proteintech®

Uni-rAb™

Recombinant Monoclonal Antibodies

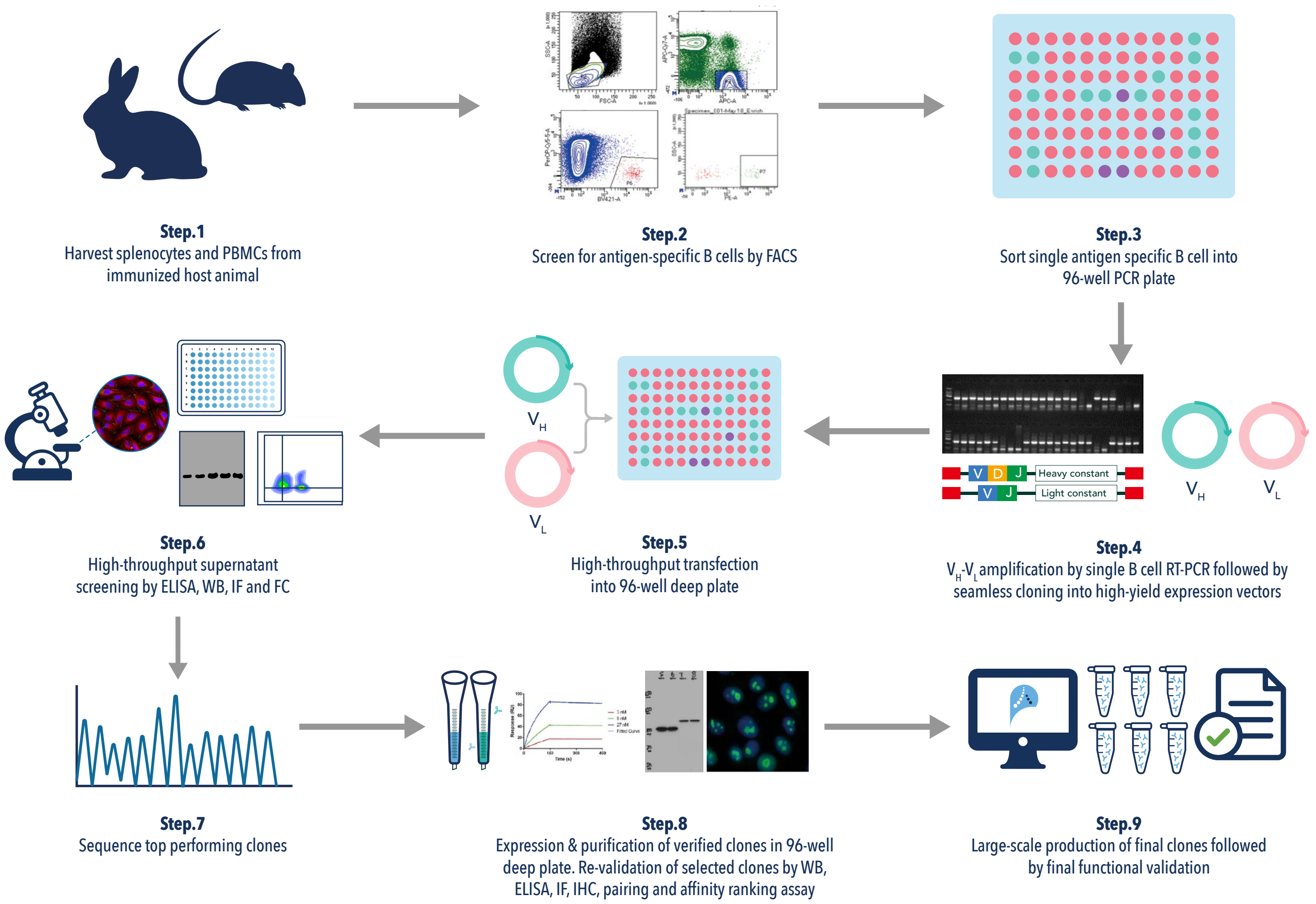
Uni-rAb™ antibodies are the latest generation of recombinant monoclonal antibodies developed using Proteintech's Antigen-Specific B-Cell Cloning & Engineering (ABCE™) platform. The ABCE™ platform achieves stable and high expression of recombinant monoclonal antibodies by cloning antibody heavy and light chain sequences derived from antigen-specific B cells into high-yield expression vectors followed by their introduction into suitable mammalian expression systems.

Uni-rAb™ Advantages

- Monoclonal antibodies with native V_H-V_L pairings
- Excellent specificity & high affinity
- High purity
- Unparalleled lot-to-lot consistency
- Validated in multiple applications
- Available in carrier-free formulations

ABCE™ Platform

Leveraging more than 20 years of antibody development experience, Proteintech's Antigen Specific B-Cell Cloning & Engineering (ABCE™) platform combines the in-depth technical expertise of our R&D team with recent advancements in antibody technology and cutting-edge automation to ensure rapid and high-throughput production of Uni-rAb™ recombinant monoclonal antibodies.



Uni-rAb™ recombinant antibody development workflow on the ABCE™ platform.

Antigen-specific single B cell sorting

The ABCE™ platform relies on antigen-specific singleB cell sorting that leads to the generation of recombinant antibodies with native V_H -V_L pairings which is critical for maintaining antibody specificity and functionality.

Rigorous screening & validation

Antibodies developed on the ABCE™ platform undergo screening at three different stages, including, high-throughput initial supernatant screening, high-throughput re-validation of purified antibody, and final functional validation prior to the formal release of the antibody.

Two-step purification

Recombinant antibodies produced using the ABCE™ platform are purified via a two-step purification process, which includes protein A purification followed by mixedmode cation/anion exchange chromatography ensuring high purity and consistency between different batches.

High-throughput production

The ABCE™ platform enables the high-throughput generation of highly specific recombinant antibodies with a rapid turnaround. Higher number of positive clones can be obtained from a small number of cells in a much shorter time compared to other traditional antibody development approaches.

Specific Clone	1	2	3	4	5	6	7	8	9	10	11	12
A	0.0708	1.8391	1.8402	0.0464	1.6773	1.7500	1.7295	1.8441	1.8219	1.8920	1.8128	1.8268
B	1.8860	1.7567	1.8819	1.7659	1.8928	1.8506	0.0410	1.9123	1.8844	1.7695	1.8720	1.9091
C	1.9037	1.7693	1.7659	1.8127	1.9027	1.9406	1.8582	0.0361	1.8667	1.8431	1.7512	1.9096
D	1.6727	1.8542	1.8051	0.0421	1.8111	1.8705	1.8406	1.8535	1.8618	1.9114	1.8869	1.8473
E	1.6514	1.7689	1.5154	1.8627	1.8533	1.9003	1.8386	1.6698	1.9514	1.8013	1.7774	1.7492
F	1.8688	1.8288	1.7516	1.8901	0.0365	1.8287	0.0572	1.7306	1.8385	1.8507	1.8177	1.9183
G	1.8171	1.7880	1.8053	1.7724	1.8495	1.8023	1.9376	1.7727	1.8100	1.6986	1.8640	1.8326
H	1.7924	1.8785	1.6974	1.6240	1.7636	1.7414	1.7830	1.7240	0.0627	0.0522	0.0393	0.0393

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Nonspecific Clone	1	2	3	4	5	6	7	8	9	10	11	12
A	0.0464	0.0419	0.0431	0.0426	0.0429	0.0325	0.0419	0.0416	0.0337	0.0432	0.0443	0.0444
B	0.0362	0.0326	0.0412	0.0424	0.0326	0.0324	0.043	0.0366	0.0341	0.0409	0.0423	0.0456
C	0.0404	0.0399	0.0456	0.0417	0.033	0.0384	0.0445	0.0409	0.0337	0.0338	0.0445	0.0441
D	0.0451	0.0426	0.0333	0.0348	0.0384	0.034	0.0402	0.0448	0.0338	0.0343	0.0326	0.0405
E	0.042	0.0421	0.0424	0.0388	0.0339	0.0394	0.034	0.9959	0.0342	0.036	0.0346	0.0471
F	0.0459	0.0418	0.0436	0.1208	0.0349	0.0394	0.0329	0.0334	0.0337	0.0408	0.0414	0.0435
G	0.0437	0.0421	0.0532	0.0428	0.0355	0.0423	0.0428	0.0325	0.0368	0.0421	0.073	0.0489
H	0.0455	0.0451	0.1349	0.0503	0.0416	0.0416	0.0399	0.0363	0.0436	0.0419	0.0432	0.0528

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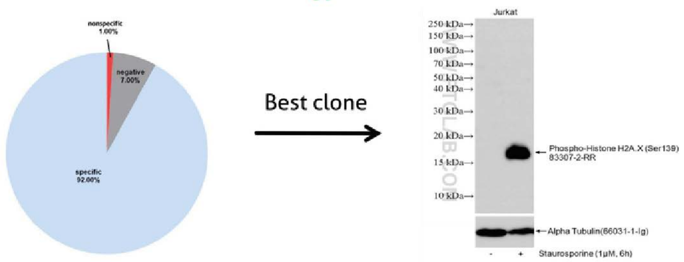
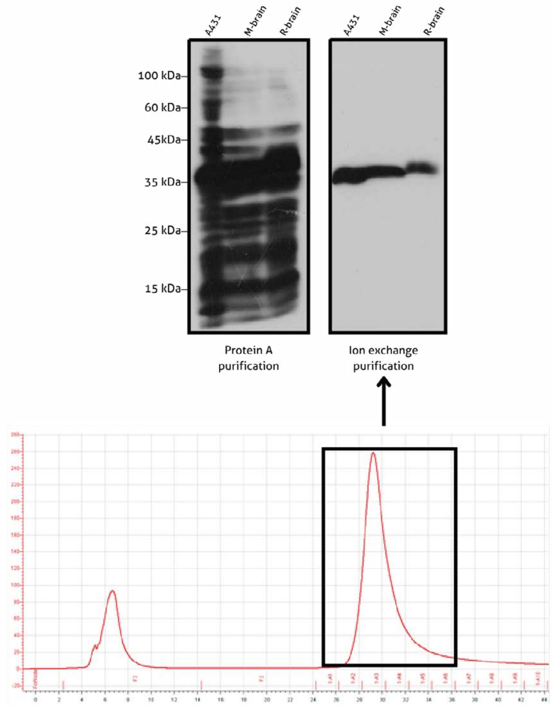
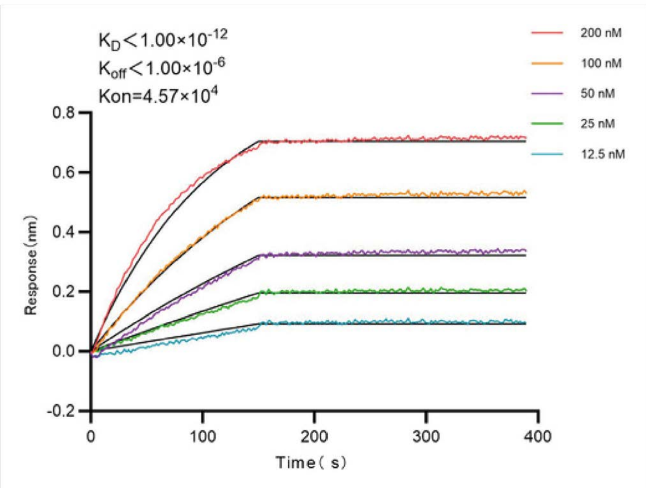


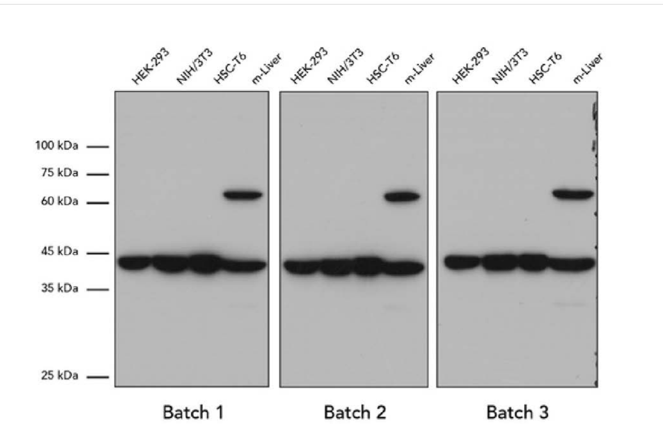
▲ Antigen-specific single B cells sorting results in a highpercentage of positive clones as verified by ELISA. (83307-2-RR: Phospho-Histone H2A.X (Ser139) Uni-rAb™Recombinant antibody).



▲ Two-step purification of Uni-rAb™ recombinant antibodies. (81491-1-RR : Phospho-PDH E1 Alpha (Ser232) Uni-rAb™ Recombinant antibody)

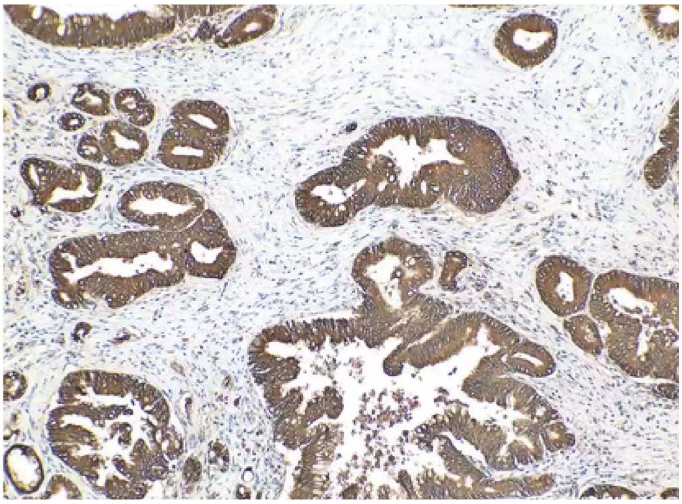


▲ Measurement of Uni-rAb™ antibody affinity using biolayer interferometry (BLI). (98005-1-RR: Anti-Mouse IL-17A Uni-rAb™ Recombinant Antibody)



▲ Western blot analysis of various cell lysates using three separate batches of Beta Actin Uni-rAb™ Recombinant Antibody (81115-1-RR) demonstrating that Uni-rAb™ Recombinant antibodies have a high lot-to-lot consistency.

▲ IF analysis of FFPE mouse heart tissue using smooth muscle actin specific Uni-rAb™ recombinant antibody (80008-1-RR) and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).



▲ IHC analysis of FFPE human pancreas cancer tissue using NRF2 Uni-rAb™ recombinant antibody (80593-1-RR).

Custom Recombinant Antibody Development

If you need custom recombinant antibody development, look no further. Proteintech's scientists have extensive experience in antigen design, expression and purification to help you with your custom antibody development project. In addition to facilitating the high-throughput development of our off-the-shelf Uni-rAb recombinant antibodies, the ABCE™ platform offers the flexibility of multi-species recombinant antibody discovery of desired targets with a rapid turnaround.

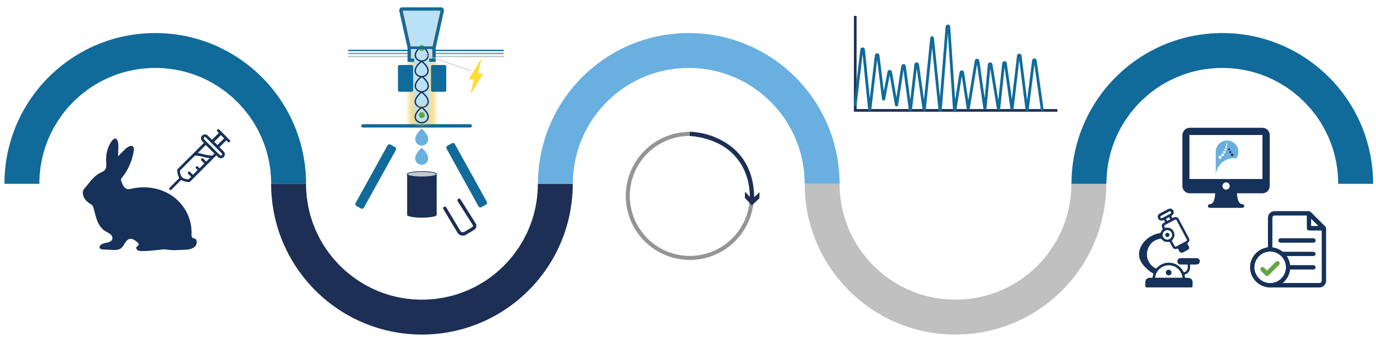
Animal Immunization
1.5 - 2 months

FACS sorting of antigen-specific B cells
3 days

High-throughput VH-VL cloning, expression & initial supernatant screening by ELISA & other relevant assays
2 weeks

Sequence analysis of positive clones & re-test in relevant assays
2 weeks

Large-scale antibody production & final functional validation
2 weeks



Projected timeline for custom recombinant antibody development on the ABCE™ platform

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