

FastAb Adjuvant

Adjuvants and Antibody Production

FastAb Adjuvant is a proprietary, novel, water-soluble mouse adjuvant designed specifically for preparing monoclonal and polyclonal antibodies. It can be used as an alternative to the classic Freund's adjuvant.

Compared to Freund's adjuvant, FastAb Adjuvant utilizes simpler preparation steps (thus shorter time), a lower dosage of immunogen, and no emulsification (and is hence capable of maintaining the native structure of the antigen).

FastAb Adjuvant can be applied to monoclonal Ab screening and preparation with mouse hybridoma technology, phage display antibody library technology or single B cell cloning technology.

Highlight

1. Easy to use. No emulsification - just mix with antigen and it is ready to be used for intramuscular injection.
2. Simple and short protocol. 2- or 3-weeks immunization with a total of 2 injections.
3. Reduced antigen usage, with a single dose of 0.1-50 µg.
4. Sterile, safe, and non-toxic; thus ensures good animal welfare.
5. Allows for the generation of antibodies with high titer and affinity.
6. As emulsification is not required, the native immunogen structure can be maintained. Suitable for both linear and conformational epitopes.

SKU

08642901

Package

1ml / Vial

Storage

Stable for 24 months from the date of manufacture when stored at 2 - 8°C (Do not freeze)

Note

This product can be stored at ambient temperature for shipping purposes

Applicable Species

Mouse



Use Method

1. For each mouse, prepare 0.1 - 50 µg of immunogen in 50 µL of normal saline.

Note: Please prepare sufficient solution according to the number of animals.

Recommended antigen usage:

- 1) Strong immunogen: 0.1 - 10 µg
- 2) Weak immunogen: 1 - 50 µg

2. Mix the FastAb Adjuvant thoroughly (by vortexing, if possible). Take the required volume of FastAb Adjuvant and quickly mix the adjuvant and antigen-saline solution at a 1:1 ratio. The recommended injection volume is 100 µL/mouse; prepare fresh mixture before the injection.

Note: It is normal to see some precipitates in FastAb Adjuvant and antigen-saline-FastAb Adjuvant mixture. Ensure the mixture is well mixed before the injection.

3. The mixture shall be injected intramuscularly into the hind leg using a recommended volume of 100 µL/mouse.

Recommended Immunization Protocol

5-weeks standard protocol for generation of monoclonal antibody

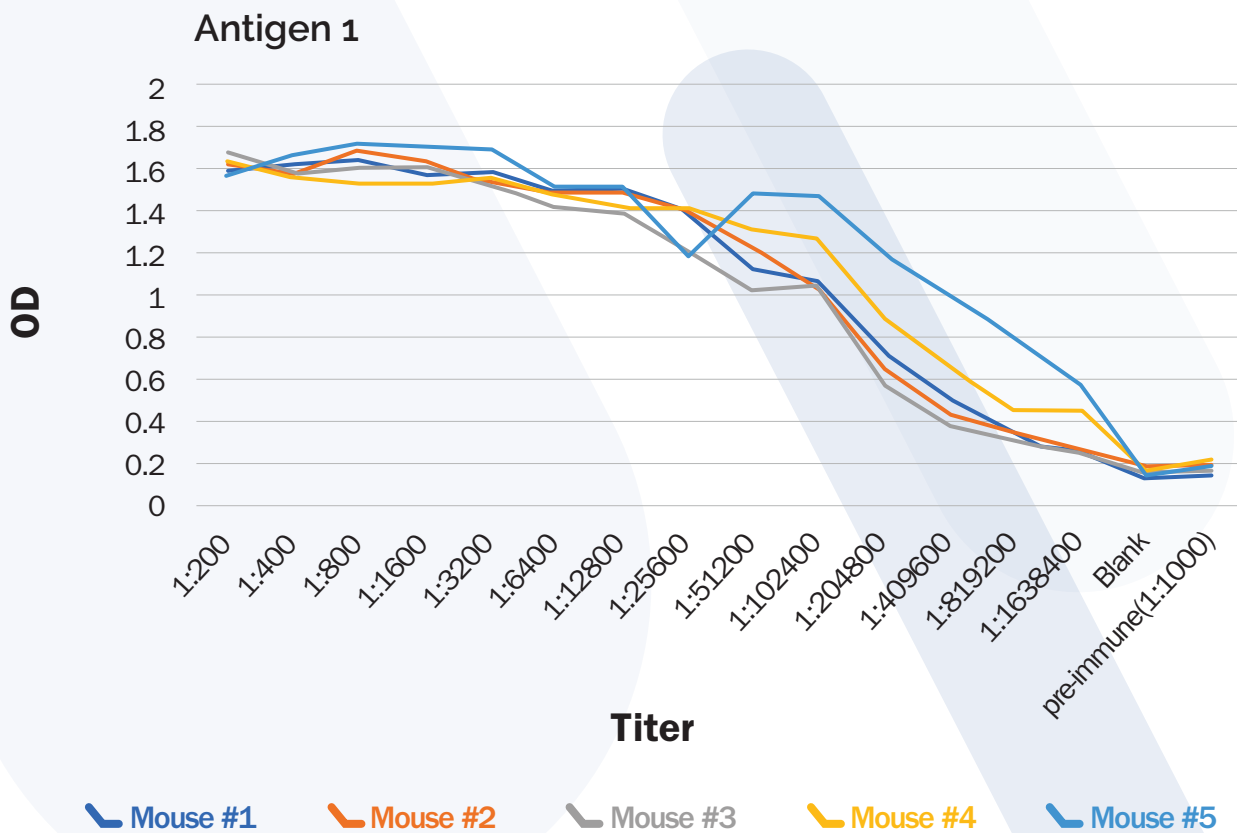
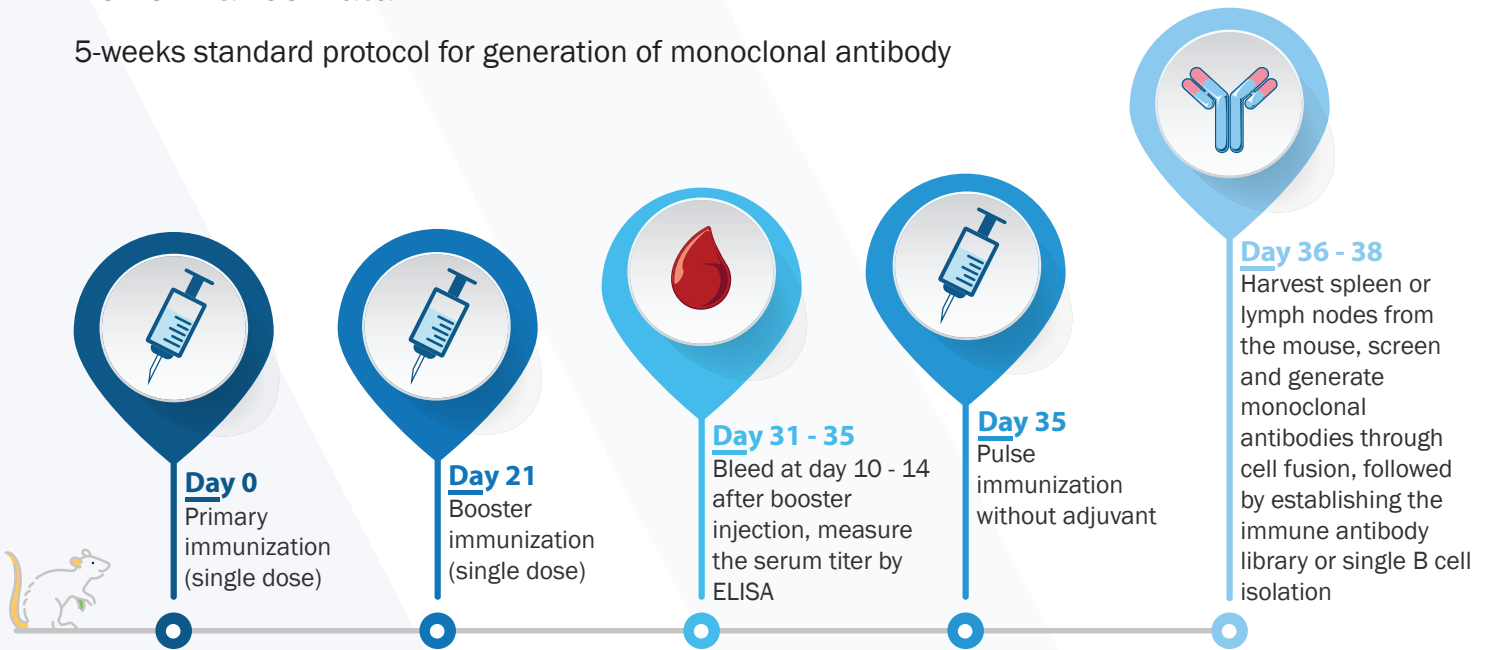
Time Point	Process
Day 0	Primary immunization (single dose)
Day 21	Booster immunization (single dose)
Day 31-35	Bleed at day 10 - 14 after booster injection and measure the serum titer by ELISA
Day 35	Pulse immunization without adjuvant
Day 36-38	Harvest spleen or lymph nodes from the mouse, screen and generate monoclonal antibodies through cell fusion, followed by establishing the immune antibody library or single B cell isolation

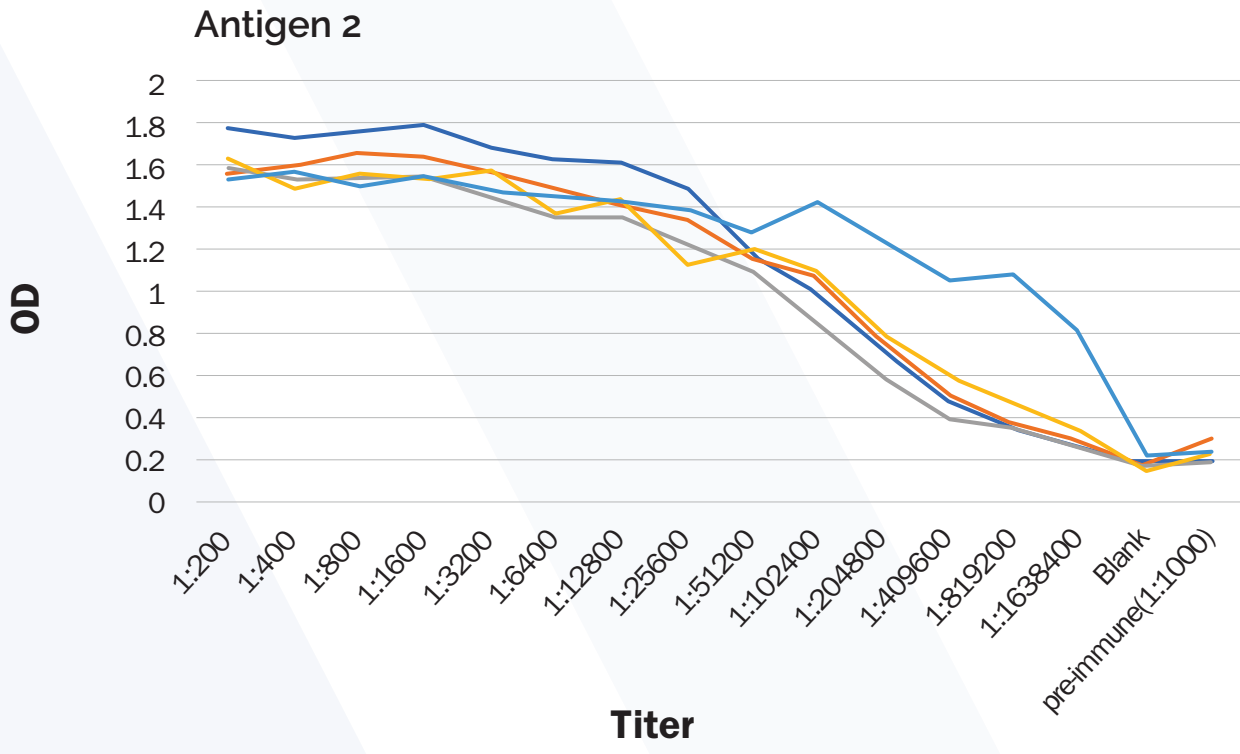
2-weeks standard protocol for generation of polyclonal antibody

Time Point	Process
Day 0	Primary immunization (single dose)
Day 7	Booster immunization (single dose)
Day 14	Collect the blood from caudal vein, eyeball or by cardiac puncture

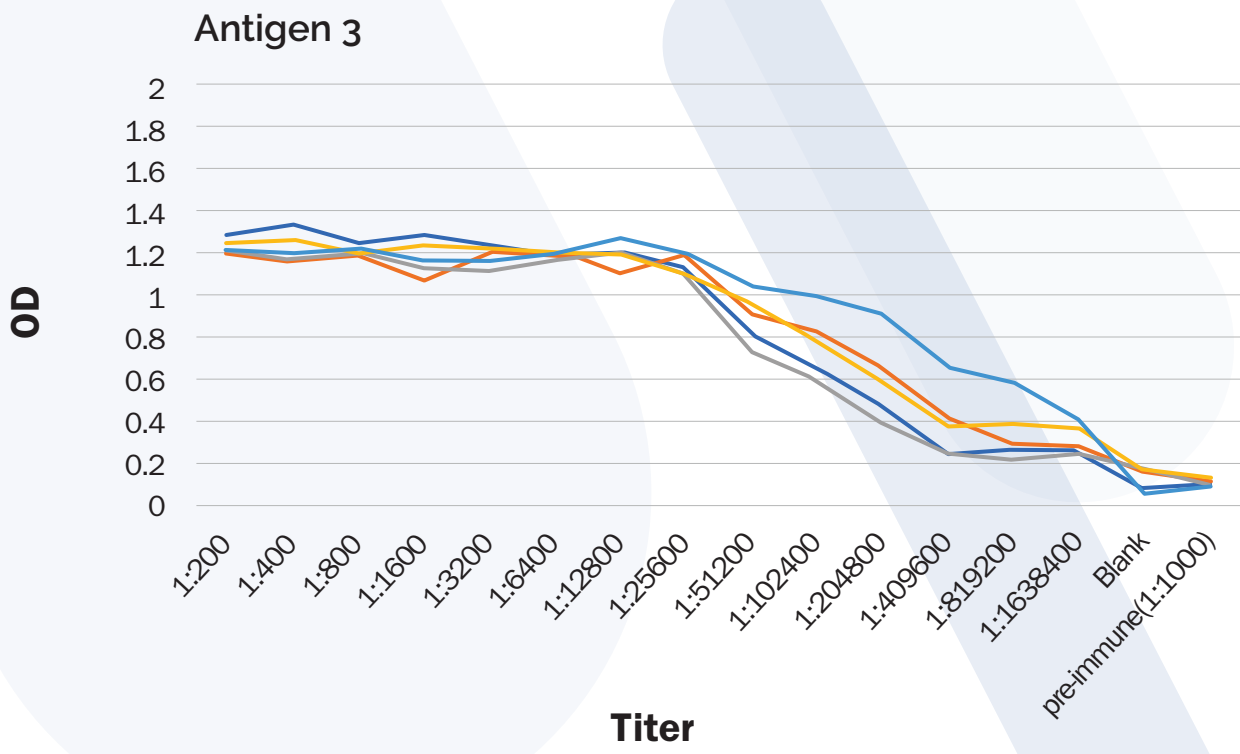
Performance Data

5-weeks standard protocol for generation of monoclonal antibody





▾ Mouse #1
 ▾ Mouse #2
 ▾ Mouse #3
 ▾ Mouse #4
 ▾ Mouse #5



▾ Mouse #1
 ▾ Mouse #2
 ▾ Mouse #3
 ▾ Mouse #4
 ▾ Mouse #5

Fig 1. Determination of serum antibody titer (by ELISA) in the mice immunized with three different antigens (n=5 per antigen), i.e., Antigen 1 (B), Antigen 2 (C), Antigen 3 (D). Sera samples were collected at day 27; blank and sera collected at day 0 (pre-immune) served as negative controls.

8-weeks immunization protocol for weak immunogen

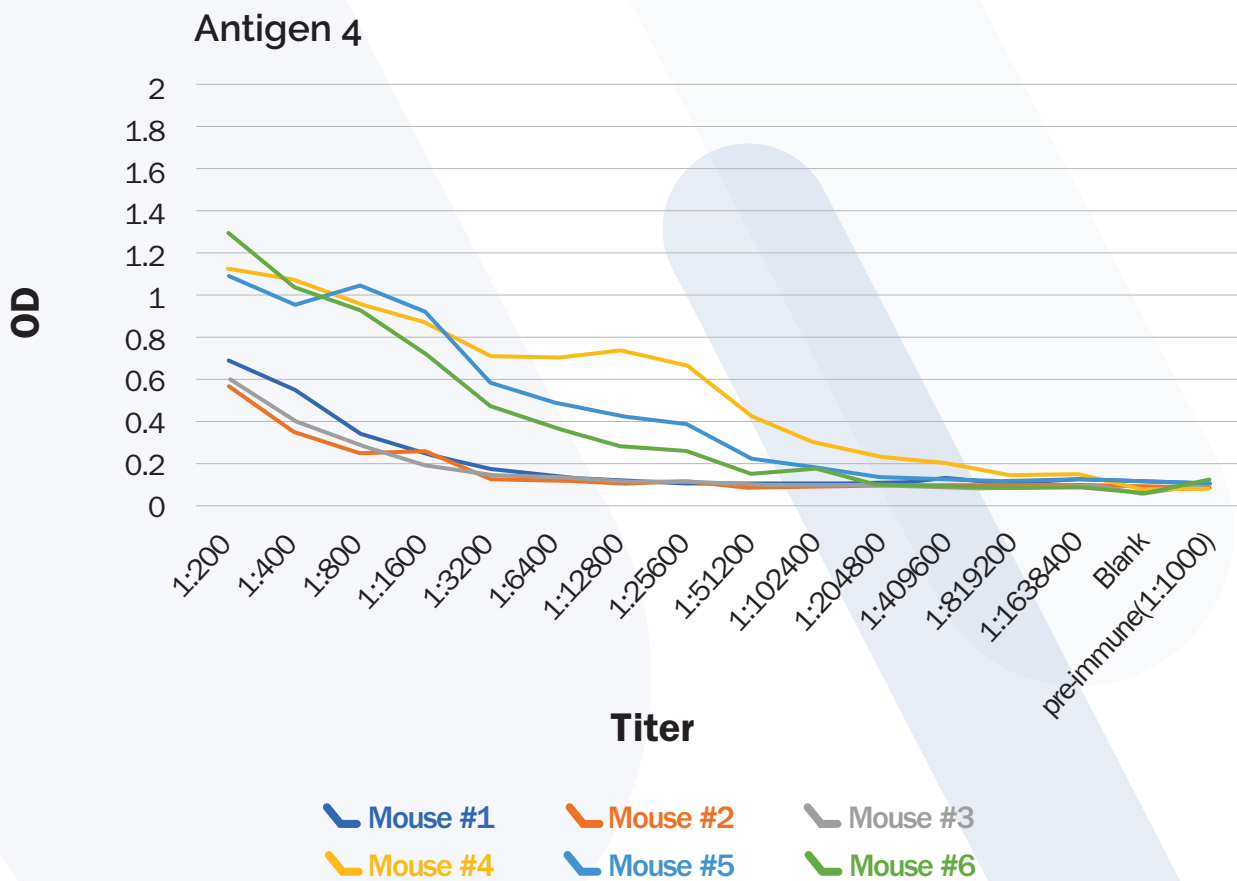
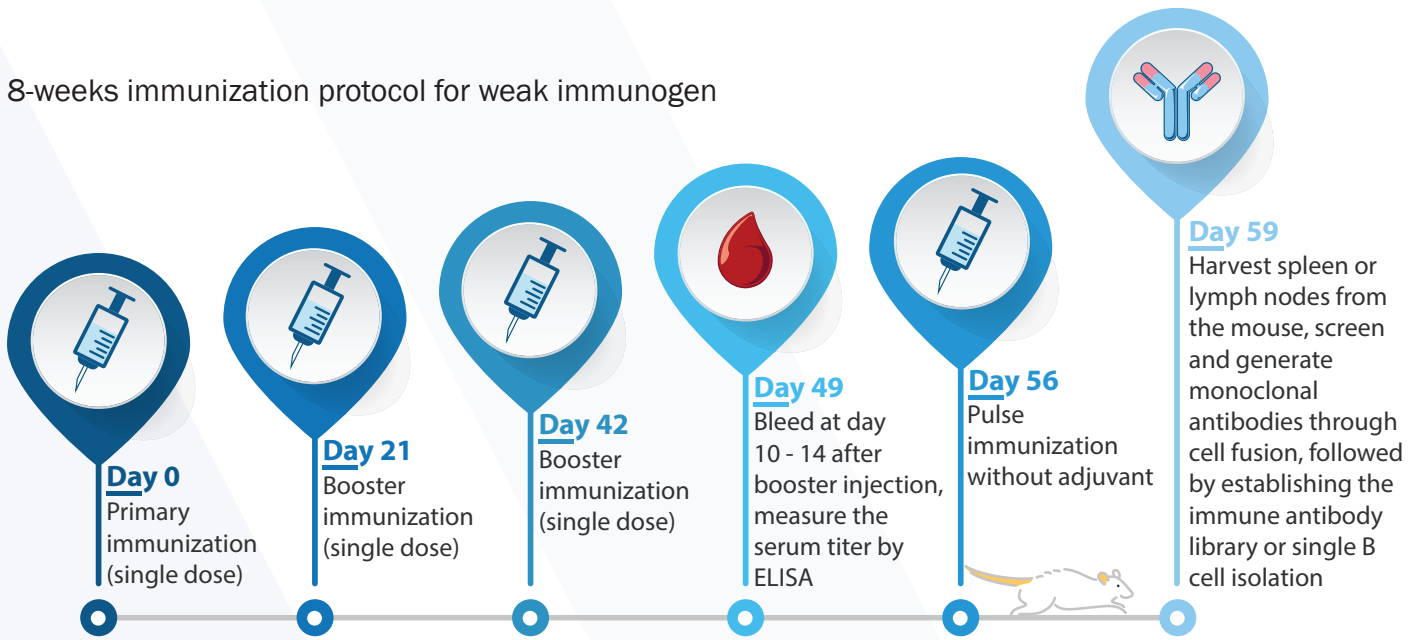


Fig 2. Determination of serum antibody titer (by ELISA) in the mice immunized with a weak immunogen, i.e., Antigen 4. Sera samples were collected at day 49; blank and sera collected at day 0 (pre-immune) served as negative controls.



Frequently Asked Questions

Question 01. What steps are recommended for achieving optimal performance prior to using FastAb Adjuvant?

FastAb Adjuvant is a multi-component suspension; mix thoroughly before using. It is recommended to inject as soon as possible after mixing the FastAb adjuvant with antigen to avoid precipitation and ensure good performance.

Question 02. How do I determine immunogen usage?

- 1) Weak immunogen: 1 - 50 μg
- 2) Strong immunogen: 0.1 - 10 μg

Question 03. When should the FastAb Adjuvant be used?

FastAb Adjuvant should be used for primary immunization and booster, and not for pulse immunization.

Question 04. What types of antibodies do mice produce when using FastAb Adjuvant?

Using the 5-week standard immunization protocol, the antibodies produced by the mice will be mainly high affinity IgG and some low affinity IgM.

Question 05. How do I design the immunization protocol for monoclonal antibodies when using FastAb Adjuvant?

We recommend performing 5-week standard immunization protocol to generate the monoclonal antibody.

One extra immunization can also be added between day 35 - 42 based on the titer and user's requirement. If the titer measured at day 10 - 14 after the extra immunization cannot meet the user's requirement, it is suggested to redesign the antigen or increase the number of mice and repeat the entire process from the beginning.

Question 06. Is it possible to use rapid immunization protocol when preparing mouse monoclonal antibody with FastAb Adjuvant?

Weekly or biweekly injection may allow the immunized mice to produce higher level IgG. However, this shortened immunization interval is not suitable for production of high affinity antibodies; hence it is not recommended to use the rapid immunization protocol for generating the mouse monoclonal antibodies.

Question 07. Is it possible to use rapid immunization protocol when preparing mouse polyclonal antibody with FastAb Adjuvant?

As the serum volume in each mouse is small, a large-scale production of polyclonal antibodies will not be feasible. If users only require a small amount of polyclonal antibody, weekly or biweekly injection (with a total of two injections) can be performed.

Question 08. What kind of antibody screening or technology is suitable for preparing mouse monoclonal antibody with FastAb Adjuvant?

There are 3 options: mouse hybridoma technology, phage display antibody library technology or single B cell cloning technology.



Frequently Asked Questions

Question 09. Can FastAb Adjuvant be applied to prepare humanized antibodies?

Sure. FastAb Adjuvant can be applied to immunize the humanized mice initially, followed by use of mouse hybridoma technology, phage display antibody library technology or single B cell cloning technology to prepare the humanized antibody.

Question 10. What are the main advantages of FastAb Adjuvant as compared to Freund's adjuvant?

Ready-to-use, simple and easy preparation, with no emulsification and less immunogen requirement.

Question 11. Is the immunogen for FastAb Adjuvant the same as that of Freund's adjuvant?

Yes, both adjuvants can be used for various antigens.

Question 12. How is the performance of FastAb Adjuvant as compared to Freund's adjuvant?

The performance is similar.

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