# SDA BIO VACCINE ADJUVANT

SDA BIO

## Instructions

## SDA 70 P

### High Shear Emulsion Oil-in-Water Vaccine Adjuvant

**Key points of SDA 70 P adjuvant:**

1. The low temperature direct emulsification type oil-in-water adjuvant. The best way is to drop the low temperature aqueous antigen into the high speed stirring pre-cooled adjuvant at the slowest speed. Or the two phases are first pre-stirred at low speed for 1-2 minutes to be uniform, then start high speed stirring for 10 minutes.

2. stable, well tolerated, and with mild neutralizing HLB emulsifier, low local and systemic reactions.

3. Good balance between potency and safety

4. 0.2 mg/mL VSP70 in aqueous phase can reduce the viscosity of emulsion, effectively overcome maternal antibodies, save antigen, increase antibody titers and neutralizing anti-bodies, and improve the level of cellular immunity.

5. USDA certified and globally recognized

SDA 70 P is an oil-based adjuvant for producing poultry oil-in-water (W/O) emulsion vaccines. It contains DRADREAL 6VR mineral oil and a purified, ultra-refined plant oleic acid derived from glycerol mannitol (HLB-neutral) as the emulsifier. SDA 70 P is free from animal-derived and synthetic chemical components, as well as immunopotentiating agents.

SDA 70 P neutral emulsifier vaccine can induce strong and long-term immunity. Compared with traditional Span Twain or mannitol oil emulsion, SDA 70 P emulsion vaccine is very stable, well tolerated, good penetration and easy to inject.

**1. Vaccine preparation:** -SDA 70P:70 Parts

The weight of the vaccine prepared is typically in the following proportion:-aqueous antigen: 30 parts

SDA 70 P and antigen can be emulsified in many ways. The required adjuvant and antigen are weighed and stored at 4°C for equilibrium. The adjuvant SDA 70 P and vaccine aqueous medium can be directly mixed from the refrigerator and homogenized by low speed stirring and then high speed homogenizing.

The viscosity of the mixture may be high if the mixture is directly combined at room temperature and then high sp eed stirring is started.

The optimal emulsification protocol involves: First, weigh the required adjuvant and antigen and store them at 4°C for thermal stabilization. Next, transfer the adjuvant SDA 70 P into a high-speed homogenization container and initiate vigorous agitation (>5000 RPM). Then, remove the aqueous vaccine medium from the refrigeration chamber and slowly add it to the agitated adjuvant at a uniform rate, typically completing the addition within 5 minutes. After antigen addition, maintain high-speed stirring for another 5 minutes to achieve a stable emulsion. Numerous studies demonstrate that this low-temperature gradual addition method minimizes antigen degradation and results in the lowest viscosity of the emulsion. Note that SDA 70 P requires a high-shear mixer for preparation to ensure stable and efficient vaccine formulation.

*2.* Emulsion Properties: (blank Antigen Medium or 1x PBS)

| The form of a drug | Dynamic viscosity | Conductivity | Particle size micron | Typical stability | | |
|---|---|---|---|---|---|---|
| W/O | (mPa.s) | (μS/cm) | | 4 ° C | 25 ° C | 37 ° C |
| Oil-in-water | 25°C about 1 5 | < 10 | < 1 | At least 12 months | At least 2 months | About 15 days |

*3.* Immune Response: SDA 70 P enhances vaccine efficacy by inducing a robust and long-lasting immune response. It serves as an excellent adjuvant for stimulating protective immunity in avian and fish models. This product is recommended for bacterial, viral, or parasitic antigens.

*4.* Species: SDA 70 P Adjuvant is currently used in a variety of vaccines, with versatility for large animals, poultry, and fish. The local reaction in large animals is 5 times lower than that in other foreign emulsion vaccines of the same type.

*5.* Strength: This adjuvant achieves an optimal balance between efficacy and safety. With its favorable tolerability, it enables sustained protective immunity, making it particularly suitable for antigens with inherently low immunogenicity. Furthermore, it offers the potential to maintain equivalent protection levels while reducing injection doses or diluting fixed doses.

*6.* Safety and Regulatory Compliance: The SDA BIO series of toxicology studies (including the Berlin test, oral LD50, IP LD50, ocular irritation test, skin irritation test, and thermal provocation tests) confirmed the safety and favorable tolerability of these adjuvants.

SDA BIO adjuvants and their components are classified as safe veterinary products. The Committee for Veterinary Medicinal Products (CVMP) has approved them for use in immunization products, including authorized substances. Under EU Regulation No.470/2009 (formerly 2377/90/EC), no additional Maximum Residue Limits (MRL) studies are required, or they may be directly substituted for registered commercial veterinary products.

The properties of the antigen culture medium are critical to the effectiveness and safety of the vaccine.

*Learn more about this product or any recommendations for vaccine optimization*

*Please refer to www.sdabio.com or contact us at vaccine_adjuvants@sdabio.com*