

# AddaS03™

Oil-in-water nano-emulsion adjuvant

Catalog Code: vac-as03-10

<https://www.invivogen.com/addas03-adjuvant>

**For research use only. Not for use in humans.**

Version 24C20-NJ

## PRODUCT INFORMATION

### Contents

- 10 ml AddaS03™ provided as a ready-to-use sterile emulsion

### Storage and stability

- AddaS03™ is shipped at room temperature. Upon receipt, store product at 4°C.
- AddaS03™ is stable for at least 1 year when properly stored.
- **DO NOT FREEZE**

### Formulation

AddaS03™ is a nano-emulsion of:

- DL- $\alpha$ -tocopherol (5% v/v) in squalene oil 5% (v/v)
- Tween80® (1.8% v/v) in phosphate-buffered saline (pH 6.8)

The nano-emulsion is produced using a microfluidizer and filtered through a 0.22- $\mu$ m filter to remove large droplets and sterilize the final product.

### Quality control

- AddaS03™ is VacciGrade™ (preclinical grade). It is prepared under strict aseptic conditions and is tested for the presence of endotoxins.
- AddaS03™ is guaranteed sterile and its endotoxin level is < 10 EU/ml (determined using the HEK-Blue™ LPS Detection Kit 2).
- Physio-chemical characteristics of AddaS03™ have been confirmed by sizing and HPLC.

## PRODUCT DESCRIPTION

AddaS03™ is an oil-in-water emulsion adjuvant, with a formulation similar to that of the adjuvant system AS03®, a fundamental component of pandemic influenza and protein-based covid vaccines [approved by relevant regulatory authorities]<sup>1</sup>. It is composed of the same percentage of two biodegradable oils, squalene and DL- $\alpha$ -tocopherol, and for stability, the surfactant polysorbate 80 (Tween 80®).

*Please note: AS03® is a registered trademark of GSK, and is used for comparative purposes only. AddaS03™ is not made by, affiliated with, sponsored by or endorsed by GSK. GSK has not evaluated or approved the representations contained herein.*

Squalene oil-in-water emulsions, such as MF59® or AS03®, allow for antigen dose sparing and result in mixed cell-mediated and humoral immune responses (Th1/Th2)<sup>2-5</sup>. A consistent signature pattern of early post-vaccine activation of myeloid and lymphoid cells following the administration of these adjuvants has emerged across multiple studies in humans<sup>1</sup>.

**1. O'Hagan, DT. et al., 2021.** "World in motion" - emulsion adjuvants rising to meet the pandemic challenges. *npj vaccines* 6(1):158. **2. Morel, S. et al., 2011.** Adjuvant System AS03 containing alpha-tocopherol modulates innate immune response and leads to improved adaptive immunity. *Vaccine* 29:2461. **3. Calabro, S. et al. 2013.** The adjuvant effect of MF59 is due to the oil-in-water emulsion formulation, none of the individual components induce a comparable adjuvant effect. *Vaccine* 31:3363. **4. Wilkins, AL et al., 2017.** AS03- and MF59-Adjuvanted Influenza Vaccines in Children. *Front Immunol* 8:1760. **5. Shi, S. et al., 2019.** Vaccine adjuvants: Understanding the structure and mechanism of adjuvant activity. *Vaccine* 37:3167.

## METHODS

### Preparation of antigen-AddaS03™ mixture

Antigens should be preferentially diluted in a saline or phosphate buffer. The amount of antigen (e.g. protein or conjugated peptide) used for the primary immunization should be adjusted (e.g. 1 - 15  $\mu$ g) depending upon availability and immunogenicity of the antigen.

1. Bring AddaS03™ to room temperature.
2. Shake the capped bottle of AddaS03™ before opening.
3. Mix equal volumes of the prepared antigen and AddaS03™.

Notes:

- The volume of injection depends on the site of administration.
- To avoid anaphylaxis, do not use adjuvants for intravenous injection.

## RELATED PRODUCTS

Product	Cat. Code
<b>Vaccine Adjuvants</b>	
AddaVax™	vac-adx-10
Adju-Phos® adjuvant	vac-phos-250
Alhydrogel® adjuvant 2%	vac-alu-250
CFA	vac-cfa-10
IFA	vac-ifa-10
ODN 1826 VacciGrade™	vac-1826-1
ODN 2006 VacciGrade™	vac-2006-1
<b>OVA Antigens</b>	
EndoFit™ OVA (endotoxin-free)	vac-pova
OVA protein	vac-stova

### TECHNICAL SUPPORT

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