

# NexaVant™ Vaccigrade™

## TLR3-based adjuvant

Catalog code: vac-nvt, vac-nvt-5

<https://www.invivogen.com/nvt-vaccigrade>

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

Version 23J12-AK

## PRODUCT INFORMATION

### Contents

NexaVant™ Vaccigrade™ is provided as a colorless, transparent, ready-to-use liquid at 1 mg/ml, available in two pack sizes:

- 100 µg: vac-nvt
- 5 x 100 µg: vac-nvt-5

### Storage and stability

- NexaVant™ Vaccigrade™ is shipped at room temperature (RT). Upon receipt, store at 4°C.
- NexaVant™ Vaccigrade™ is stable at RT. However, trace amounts of RNase can compromise its integrity. Common sources of RNase contamination include lab benches, pipettors, tubes, tips, and buffers. We therefore recommend aliquoting material upon receipt for long term storage at -20°C.
- To avoid contamination, we recommend to keep aliquots at 4°C for short-term storage or -20°C for long-term storage.
- The product is stable for 6 months at 4°C and for 1 year at -20°C when properly stored. Avoid repeated freeze-thaw cycles.

### Quality control

- Biological activity has been tested using cellular assays.
- The absence of bacterial contamination (lipoproteins & endotoxins) has been confirmed using HEK-Blue-Lucia™ hTLR2 and HEK-Blue-Lucia™ mTLR4 cells.
- NexaVant™ Vaccigrade™ is guaranteed sterile and its endotoxin level is <5 EU/mg (measurement by kinetic chromogenic LAL assay).

## DOSING GUIDELINES

- **Mice:** ≥10 µg/dose (vaccine adjuvant) and ≥50 µg/dose (anti-cancer vaccine)

## PROPERTIES

**CAS Number:** 2839526-76-8

**Quantity:** 100 µl (vac-nvt) or 5 x 100 µl (vac-nvt-5)

**Concentration:** 1 mg/ml

**Buffer composition:** 10mM Phosphate Buffer pH 7.2

**A260/A280 ratio:** 1.8 ~ 2.2

**Size:** 424 bp (approximately 275 kDa)

NexaVant™ is a trademark that belongs to the NA Vaccine Institute.

## DESCRIPTION

NexaVant™ Vaccigrade™ is a double-stranded (ds) RNA-based TLR3 agonist and potent vaccine adjuvant.

NexaVant™ (NVT) is a synthetic dsRNA of 424 base pairs chosen from the Chinese sacbrood virus (CSBV) genome. Thus, it does not match with any human DNA sequence. It is produced by performing PCR-coupled bidirectional *in vitro* transcription using T7 RNA polymerase technology.

NexaVant™ displays high purity, molecular homogeneity, measurable pharmacokinetics, long-term stability, and non-toxicity in various animals<sup>1</sup>. It is a potent TLR3 agonist verified using HEK-Blue™ hTLR3 cells<sup>1</sup>. It also upregulates specific interferon-stimulated genes (ISGs) including RIG-I, MDA-5, and TLR3<sup>1</sup>. *In vivo* experiments performed in mice demonstrated that NVT successfully attracts various immune cells into local draining lymph nodes and is able to activate dendritic cells (CDs). Moreover, it induces Th1-biased ovalbumin (OVA)-specific antibody responses rather than Th2-type responses. NVT increases Th1-type T cell populations such as IFN-γ<sup>+</sup> CD4<sup>+</sup> and IFN-γ<sup>+</sup> CD8<sup>+</sup> cells<sup>1</sup>.

NexaVant™ is a promising adjuvant for anti-viral or anti-cancer vaccines, successfully overcoming the problems of Poly(I:C), another TLR3-agonistic adjuvant<sup>1</sup>. NexaVant™ Vaccigrade™ is provided as a ready-to-use liquid in a high-quality pre-clinical grade. It is also available in a standard grade as NexaVant™.

1. Ko KH, et al., 2023. A novel defined TLR3 agonist as an effective vaccine adjuvant. *Front Immunol.*;14:1075291.

## RELATED PRODUCTS

Product	Cat. Code
NexaVant™	tlrl-nvt
HEK-Blue™ hTLR3 cells	hkb-htrl3
HEK-Dual™ hTLR3 cells	hkd-htrl3
THP1-Dual™ hTLR3 cells	thpd-htrl3
Poly(I:C) Vaccigrade™	vac-pic
EndoFit™ Ovalbumin	vac-pova

For a complete list of adjuvants provided by InvivoGen, please visit <https://www.invivogen.com/vaccine-adjuvants>.

### TECHNICAL SUPPORT

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