

N-glycolyl-MDP VacciGrade™

N-glycolylated muramyl dipeptide; NOD2-based adjuvant

Catalog # vac-gmdp

<http://www.invivogen.com/n-glycolyl-mdp-vaccigrade>

For research use only. Not for use in humans.

Version # 17E31-MM

PRODUCT INFORMATION

Content:

- 5 mg N-glycolyl-MDP VacciGrade™
- 10 ml sterile endotoxin-free physiological water (NaCl 0.9%)

Storage and stability

- N-glycolyl-MDP is provided as a sterile white lyophilized powder and shipped at room temperature. Store at -20°C.
- Upon resuspension, prepare aliquots of N-glycolyl-MDP and store at -20°C. Resuspended product is stable for 6 months at -20°C when properly stored. Avoid repeated freeze-thaw cycles.

Quality control

N-glycolyl-MDP VacciGrade™ is a preclinical grade. It is prepared under strict aseptic conditions and is tested for the presence of endotoxins. N-glycolyl-MDP VacciGrade™ is guaranteed sterile and its endotoxin level is <1 EU/mg (measurement by kinetic chromogenic LAL assay).

DESCRIPTION

MDP (muramyl dipeptide), is the minimal bioactive peptidoglycan motif common to all bacteria and the essential structure required for adjuvant activity in vaccines. MDP has been shown to be recognized by NOD2, but not TLR2, nor TLR2/1 or TLR2/6 associations¹. The cell wall of mycobacteria is known to be extremely immunogenic. This potent activity is attributed to their MDP which is N-glycolylated in contrast to the MDP of most bacteria which is N-acetylated. N-glycolyl-MDP has been reported to display a stronger NOD2-mediated activity than N-acetyl-MDP and thus to be a more potent vaccine adjuvant than N-acetyl-MDP². Furthermore MDP leads to the activation of the NLRP3 inflammasome³.

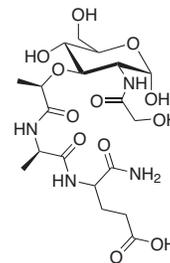
1. Girardin S. *et al.*, 2003. Nod2 is a general sensor of peptidoglycan through muramyl dipeptide (MDP) detection. *J Biol Chem.* 278(11):8869-72. 2. Coulombe F. *et al.*, 2009. Increased NOD2-mediated recognition of N-glycolyl muramyl dipeptide. *J Exp Med.* 206(8):1709-16. 3. Martinon F. *et al.*, 2004. Identification of bacterial muramyl dipeptide as activator of the NALP3/cryopyrin inflammasome. *Curr Biol* 14 (21): 1929-34.

CHEMICAL PROPERTIES

Formula: C₁₉H₃₂N₄O₁₂

Molecular weight: 508.48

Structure:



METHODS

Preparation of sterile stock solution (5 mg/ml)

- Add 1 ml of endotoxin-free physiological water provided to 5 mg of N-glycolyl-MDP VacciGrade™ to obtain a solution at 5 mg/ml.
- Vortex to homogenize.
- Prepare aliquots of stock solution and store at -20°C.

Working Concentration: 5 - 30 µg/mouse

RELATED PRODUCTS

Product	Description	Catalog Code
Alum and emulsions		
AddaVax™	Squalene-o/w	vac-adx-10
Alhydrogel® adjuvant 2%	Al(OH) ₃ gel	vac-alu-250
CFA	Complete Freund's Adjuvant	vac-cfa-10
IFA	Incomplete Freund's Adjuvant	vac-ifa-10
PRR ligands		
2'3'-cGAMP VacciGrade™	STING agonist	vac-nacga23
MPLAs VacciGrade™	TLR4 agonist	vac-mpls
ODN 1826 VacciGrade™	murine TLR9 agonist	vac-1826-1
Poly(I:C) VacciGrade™	TLR3 agonist	vac-pic
R848 VacciGrade™	TLR7/8 agonist	vac-r848
OVA Antigens		
EndoFit™ Ovalbumin	For <i>in vivo</i> use	vac-pova
Ovalbumin	For Western, ELISA	vac-stova
Ova 257-264	For detection; ELISPOT	vac-sin
Ova 323-339	For detection; ELISPOT	vac-isq

TECHNICAL SUPPORT

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