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MHC-I and MHC-II epitope peptides - Influenza A matrix protein (58-66)

Product	Cat#	Package size
Influenza A matrix protein (58-66) (>95% - HPLC 214nm) Peptide Sequence: GILGFVFTL	P2277.9501	1mg
Influenza A matrix protein (58-66) (>95% - HPLC 214nm) Peptide Sequence: GILGFVFTL	P2277.9505	5mg

Description
MHC-I glycoproteins are designed for the recognition of infected cells and tumor cells. T cell epitopes are presented on the surface of antigen-presenting cells by MHC molecules. T cell epitopes presented by MHC class I molecules are typically peptides between 8 and 11 amino acids in length and exhibiting MHC-specific sequence motifs.

These antigenic peptides are derived from non-structural and structural proteins through proteolysis in the cytosolic compartment. Peptide-MHC-I complexes are then transported to the cell surface of antigen presenting cells and are recognised by CD8+ cytotoxic T lymphocytes (CTL). This interaction induces the differentiation of CTLs. Activated CTL lyse the infected cell, secrete cytokines, and proliferate.

This mechanism ensures that cells infected by viruses or intracellular bacteria or cancer cells can be detected, since pathogen or cancer-specific MHC peptide complexes are displayed on the cell surface. CTL can recognise such abnormal cells and eliminate them.

The genes of MHC I and II molecules are polymorphic. Each MHC allele has a distinct peptide binding motif which favours certain amino acid anchor residues at defined sequence positions.

Reconstitution:
The peptide amide is provided as a lyophilized, colourless powder without any additives. It can be shipped at ambient temperature and should be stored at -20°C.
The Influenza A matrix protein (58-66) peptide can be reconstituted in DMSO (20mg/mL stock solution). Through the use of a vortex mixer, homogenizer or sonicator, a homogenous solution can be prepared. If you use an ultrasonic bath, take care of the vial labels. After reconstitution, the solution should be aliquoted and stored at or below -20°C.

The stock solution can be further diluted with PBS buffer to the desired concentration.

NOTE: Please pay attention that the final concentration of DMSO must be below 1% (v/v) to avoid toxicity in the biological system.

NOTE: Repeated thawing and freezing should be avoided.

Handling:
Caution, not fully tested. Good laboratory technique should be employed in the safe handling of any lipopeptide product. If you are not fully trained or are unaware of the hazards involved, do not use this compound!

Caution: Do not take internally! Avoid contact by all modes of exposure. Wear appropriate laboratory attire including a lab coat, gloves, mask and safety glasses. Do not mouth pipette, inhale, ingest or allow to come into contact with open wounds. Wash thoroughly any area of the body which comes into contact with the product. Avoid accidental autoinoculation by exercising extreme care when handling in conjunction with any injection device.

Usage:
This product is intended for research purposes by qualified personnel only. It is not intended for use in humans or as a diagnostic agent. Genaxxon bioscience GmbH is not liable for any damages resulting from misuse or handling of this product.

References:
R. Vita, L. Zarebski, J. A. Greenbaum, H. Emami, I. Hoof, N. Salimi, R. Damle, A. Sette, B. Peters (2010) Nucleic Acids Res. Jan. 38 D854-62. Epub 2009 Nov. 11 (www.immuneepitope.org).
H.-G. Rammensee, J. Bachmann, N.N. Emmerich, O.A. Bachor, S. Stevanović (1999) Immunogenetics 50, 213-219 (www.syfpeithi.de).
H.-G. Rammensee, T. Friede, S. Stevanović (1995) Immunogenetics 41, 178-228.
K. Falk, O. Rötzschke, S. Stevanović, G. Jung, H.-G. Rammensee (1991) Nature 351, 290 – 296. doi:10.1038/351290a0