# Mt-ND1 Blocking Peptide – The purity is >90%,tested by HPLC and MS. Purity

## PRODUCT OVERVIEW

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| **Product Name** | MT-ND1, Blocking Peptide |
| **Full Product Name** | MT-ND1 Blocking Peptide |
| **Product Gene Name** | MT-ND1 blocking peptide |
| **Product Synonym Names** | Complex I, subunit ND1; Mitochondrially encoded NADH dehydrogenase 1; MT-ND1; MTND1; NAD1; NADH dehydrogenase subunit 1 (complex I); NADH dehydrogenase subunit 1; NADH-ubiquinone oxidoreductase chain 1; NADH-ubiquinone oxidoreductase, subunit ND1; NADH1; ND1; NU1M_HUMAN |
| **Form/Format** | Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 10 mg/ml. |
| **Purity/Purification** | The purity is >90%,tested by HPLC and MS. |
| **Preparation and Storage** | Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C. |
| **Antibody/Peptide Pairs** | MT-ND1 peptide (MBS9624385) is used for blocking the activity of MT-ND1 antibody (MBS9605668) |
| **Chromosome Location** | Chromosome: MT; NC_012920.1 (3307..4262). Location: isolation source: caucasian, country: United Kingdom: Great Britain, tissue type: placenta |
| **OMIM** | 502500 |
| **Supply Chain Verification** | Manufactured in a lab with traceable raw materials manufactured on site. Coordinated product portfolio of antibodies, pairs, conjugates, recombinant proteins, and immunoassay materials available, please inquire. |
| **Notes** | For phospho antibody, we provide phospho peptide (0.5mg) and non-phospho peptide (0.5mg) |
| **ISO Certification** | Manufactured in an ISO 9001:2015 Certified Laboratory. |
| **Applications Tested/Suitable for MT-ND1 blocking peptide** | Blocking/Control |
| **Related Product Information for MT-ND1 blocking peptide** | Blocking peptides are peptides that bind specifically to the target antibody and block antibody binding. These peptide usually contains the epitope recognized by the antibody. Antibodies bound to the blocking peptide no longer bind to the epitope on the target protein. This mechanism is useful when non-specific binding is an issue, for example, in Western blotting (immunoblot) and immunohistochemistry (IHC). By comparing the staining from the blocked antibody versus the antibody alone, one can see which staining is specific; Specific binding will be absent from the western blot or immunostaining performed with the neutralized antibody. |
| **Other Notes** | Small volumes of MT-ND1 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |
| **Searchable Terms for MT-ND1 purchase** | MBS9624385 is a blocking peptide targeting MT-ND1. |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for MT-ND1. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 251831107 |
| **NCBI GeneID** | 4535 |
| **NCBI Accession #** | YP_003024026.1 |
| **UniProt Primary Accession #** | P03886 |

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| **UniProt Secondary Accession #** | Q37523; C0JKH6 |
| **UniProt Related Accession #** | P03886 |
| **GenBank Nucleotide #** | NC_012920.1 |
| **NCBI Official Full Name** | NADH dehydrogenase subunit 1 |
| **NCBI Official Synonym Full Names** | mitochondrially encoded NADH dehydrogenase 1 |
| **NCBI Official Symbol** | MT-ND1 |
| **NCBI Official Synonym Symbols** | MTND1; ND1 |
| **UniProt Protein Name** | NADH-ubiquinone oxidoreductase chain 1 |
| **UniProt Synonym Protein Names** | NADH dehydrogenase subunit 1 |
| **UniProt Gene Name** | MT-ND1 |
| **UniProt Synonym Gene Names** | MTND1; NADH1; ND1 |
| **UniProt Entry Name** | NU1M_HUMAN |
| **NCBI Protein Information** | NADH dehydrogenase, subunit 1 (complex I); NADH dehydrogenase subunit 1 |
| **UniProt Comments for MT-ND1** | MT-ND1: Core subunit of the mitochondrial membrane respiratory chain NADH dehydrogenase (Complex I) that is believed to belong to the minimal assembly required for catalysis. Complex I functions in the transfer of electrons from NADH to the respiratory chain. The immediate electron acceptor for the enzyme is believed to be ubiquinone. Defects in MT-ND1 are a cause of Leber hereditary optic neuropathy (LHON). LHON is a maternally inherited disease resulting in acute or subacute loss of central vision, due to optic nerve dysfunction. Cardiac conduction defects and neurological defects have also been described in some patients. LHON results from primary mitochondrial DNA mutations affecting the respiratory chain complexes. Defects in MT-ND1 are a cause of mitochondrial encephalomyopathy with lactic acidosis and stroke-like episodes syndrome (MELAS). MELAS is a genetically heterogenious disorder, characterized by episodic vomiting, seizures, and recurrent cerebral insults resembling strokes and causing hemiparesis, hemianopsia, or cortical blindness. Defects in MT-ND1 may be associated with susceptibility to Alzheimer disease mitochondrial (AD-MT). Alzheimer disease is a neurodegenerative disorder characterized by progressive dementia, loss of cognitive abilities, and deposition of fibrillar amyloid proteins as intraneuronal neurofibrillary tangles, extracellular amyloid plaques and vascular amyloid deposits. The major constituent of these plaques is the neurotoxic amyloid-beta-APP 40-42 peptide (s), derived proteolytically from the transmembrane precursor protein APP by sequential secretase processing. The cytotoxic C-terminal fragments (CTFs) and the caspase-cleaved products such as C31 derived from APP, are also implicated in neuronal death. Genetic variation in MT-ND1 might contribute ot the pathogenesis of non-insulin-dependent diabetes mellitus (NIDDM). Belongs to the complex I subunit 1 family.<br><br>Protein type: Membrane protein, multi-pass; Membrane protein, integral; Mitochondrial; Energy Metabolism - oxidative phosphorylation; Oxidoreductase; EC 1.6.5.3<br><br>Chromosomal Location of Human Ortholog: -<br><br>Disease: Mitochondrial Myopathy, Encephalopathy, Lactic Acidosis, And Stroke-like Episodes; Leber Optic Atrophy |
| **Research Articles on MT-ND1** | **1.** These data suggest that the four early Complex I assembly factors have non-redundant functions in the assembly of a module that docks and stabilizes newly synthesized ND1. |
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