10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

QTRT1 Blocking Peptide (C-term)

Synthetic peptide
Catalog # BP20812c

Specification

QTRT1 Blocking Peptide (C-term) - Product Information

Primary Accession Q9BXR0

QTRT1 Blocking Peptide (C-term) - Additional Information

Gene ID 81890

Other Names
Queuine tRNA-ribosyltransferase, Guanine insertion enzyme, tRNA-guanine transglycosylase, QTRT1, TGT, TGUT

Target/Specificity
The synthetic peptide sequence is selected from aa 303-317 of HUMAN QTRT1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

QTRT1 Blocking Peptide (C-term) - Protein Information

Name QTRT1 {ECO:0000255|HAMAP-Rule:MF_03218}

Synonyms TGT, TGUT

Function
Catalytic subunit of the queuine tRNA-ribosyltransferase (TGT) that catalyzes the base-exchange of a guanine (G) residue with queuine (Q) at position 34 (anticodon wobble position) in tRNAs with GU(N) anticodons (tRNA-Asp, -Asn, -His and -Tyr), resulting in the hypermodified nucleoside queuosine (7-(((4,5-cis-dihydroxy-2- cyclopenten-1-yl)amino)methyl)-7-deazaguanosine) (PubMed:11255023, PubMed:20354154). Catalysis occurs through a double-displacement mechanism. The nucleophile active site attacks the C1' of nucleotide 34 to detach the guanine base from the RNA, forming a covalent enzyme-RNA intermediate. The proton acceptor active site deprotonates the incoming queuine, allowing a nucleophilic attack on the C1' of the ribose to form the product (By similarity).

Cellular Location

Cytoplasm {ECO:0000255|HAMAP-Rule:MF_03218}. Mitochondrion outer membrane {ECO:0000255|HAMAP-Rule:MF_03218}; Peripheral membrane protein {ECO:0000255|HAMAP-Rule:MF_03218}; Cytoplasmic side {ECO:0000255|HAMAP-Rule:MF_03218}. Note=Weakly associates with mitochondria, possibly via QTRT2. {ECO:0000255|HAMAP- Rule:MF_03218}

QTRT1 Blocking Peptide (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

QTRT1 Blocking Peptide (C-term) - Images

QTRT1 Blocking Peptide (C-term) - Background

Interacts with QTRTD1 to form an active queuine tRNA- ribosyltransferase. This enzyme exchanges queuine for the guanine at the wobble position of tRNAs with GU(N) anticodons (tRNA-Asp, -Asn, -His and -Tyr), thereby forming the hypermodified nucleoside queuosine (Q) (7-(((4,5-cis-dihydroxy-2-cyclopenten-1- yl)amino)methyl)-7-deazaguanosine) (By similarity).

QTRT1 Blocking Peptide (C-term) - References

Deshpande K.L.,et al.Gene 265:205-212(2001).
Grimwood J.,et al.Nature 428:529-535(2004).
Burkard T.R.,et al.BMC Syst. Biol. 5:17-17(2011).
Van Damme P.,et al.Proc. Natl. Acad. Sci. U.S.A. 109:12449-12454(2012).