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

Nuclear Export Signal, NES HIV Rev

Synthetic Peptide
Catalog # SP2330a

Specification

Nuclear Export Signal, NES HIV Rev - Product Information

Primary Accession	P05866
Other Accession	P05864, P12485, P12484, P20869, P04616
Sequence	**NH2-LQLPPLERLTLD-COOH**

Nuclear Export Signal, NES HIV Rev - Additional Information

Other Names
Protein Rev, ART/TRS, Anti-repression transactivator, Regulator of expression of viral proteins, rev

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.

Nuclear Export Signal, NES HIV Rev - Protein Information

Name rev

Function
Escorts unspliced or incompletely spliced viral pre-mRNAs (late transcripts) out of the nucleus of infected cells. These pre- mRNAs carry a recognition sequence called Rev responsive element (RRE) located in the env gene, that is not present in fully spliced viral mRNAs (early transcripts). This function is essential since most viral proteins are translated from unspliced or partially spliced pre-mRNAs which cannot exit the nucleus by the pathway used by fully processed cellular mRNAs. Rev itself is translated from a fully spliced mRNA that readily exits the nucleus. Rev's nuclear localization signal (NLS) binds directly to KPNB1/Importin beta-1 without previous binding to KPNA1/Importin alpha-1. KPNB1 binds to the GDP bound form of RAN (Ran- GDP) and targets Rev to the nucleus. In the nucleus, the conversion from Ran-GDP to Ran-GTP dissociates Rev from KPNB1 and allows Rev's binding to the RRE in viral pre-mRNAs. Rev multimerization on the RRE via cooperative assembly exposes its nuclear export signal (NES) to the surface. Rev can then form a complex with XPO1/CRM1 and Ran-GTP, leading to nuclear export of the complex. Conversion from Ran-GTP to Ran-GDP mediates dissociation of the Rev/RRE/XPO1/RAN complex, so that Rev can return to the nucleus for a subsequent round of export. Beside KPNB1, also seems to interact with TNPO1/Transportin-1, RANBP5/IPO5 and IPO7/RANBP7 for nuclear import. The nucleoporin-like HRB/RIP is an essential cofactor that probably indirectly interacts with Rev to release HIV RNAs from the perinuclear region to the cytoplasm (By similarity).

Cellular Location

Host nucleus, host nucleolus. Host cytoplasm. Note=The presence of both nuclear import and nuclear export signals leads to continuous shuttling between the nucleus and cytoplasm

Nuclear Export Signal, NES HIV Rev - Images