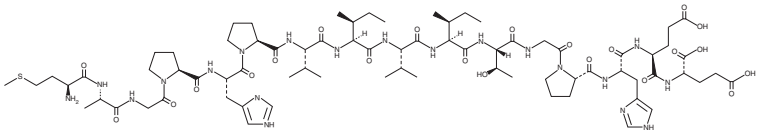
PRODUCT INFORMATION

NFAT Inhibitor

Item No. 13855



CAS Registry No.: 249537-73-3
Formal Name: L-methionyl-L-alanylglycyl-L-prolyl-L-histidyl-L-prolyl-L-valyl-L-isoleucyl-L-valyl-L-isoleucyl-L-threonylglycyl-L-prolyl-L-histidyl-L-α-glutamyl-L-glutamic acid
Synonyms: Nuclear Factor of Activated T cells Inhibitor, VIVIT
Peptide Sequence: MAGPHPVIVITGPHEE
MF: $C_{75}H_{118}N_{20}O_{22}S$
FW: 1683.9
Purity: ≥95%
Supplied as: A lyophilized powder
Storage: -20°C
Stability: ≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

NFAT inhibitor is supplied as a lyophilized powder. A stock solution may be made by dissolving the NFAT inhibitor in the solvent of choice, which should be purged with an inert gas. NFAT inhibitor is soluble in the organic solvent DMSO. It is also soluble in water. The solubility of NFAT inhibitor in DMSO and water is approximately 15 and 10 mg/ml, respectively. We do not recommend storing the aqueous solution for more than one day.

Description

NFAT inhibitor is a peptide inhibitor of the transcription factor nuclear factor of activated T cells (NFAT).[1] It binds to the NFAT recognition site on the protein phosphatase calcineurin (IC_{50} = 25 pM) but does not inhibit calcineurin phosphatase activity when used at a concentration of 100 µM.[1,2] NFAT inhibitor inhibits the dephosphorylation of NFAT in HEK293T lysates expressing NFAT1, -2, or -4 in a concentration-dependent manner.[1] It inhibits NFAT activation in RAW 264.7 macrophages, EA.hy926 endothelial cells, and isolated mouse thoracic aorta vascular smooth muscle cells (VSMCs; IC_{50}s = 29.1, 30.2, and 45.7 µM, respectively, in reporter assays).[3]

References

1. Aramburu, J., Yaffe, M.B., López-Rodríguez, C., *et al.* Affinity-driven peptide selection of an NFAT inhibitor more selective than cyclosporin A. *Science* **285(5436)**, 2129-2133 (1999).
2. Roehrl, M.H.A., Kang, S., Aramburu, J., *et al.* Selective inhibition of calcineurin-NFAT signaling by blocking protein-protein interaction with small organic molecules. *Proc. Nat. Acad. Sci. USA* **101(20)**, 7554-7559 (2004).
3. Yu, H., Sliedregt-Bol, K., Overkleeft, H., *et al.* Therapeutic potential of a synthetic peptide inhibitor of nuclear factor of activated T cells as antirestenotic agent. *Arterioscler. Thromb. Vasc. Biol.* **26(7)**, 1531-1537 (2006).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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