

# 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- $\alpha$ -glutamyl-L-glutamic acid

Synonym: Nuclear Factor of Activated T cells Inhibitor

MF:  $C_{75}H_{118}N_{20}O_{22}S$

FW: 1683.9

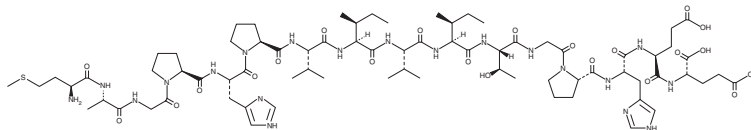
Purity:  $\geq 95\%$

Supplied as: A lyophilized powder

Storage:  $-20^{\circ}C$

Stability:  $\geq 2$  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 cell-permeable compound that selectively inhibits calcineurin-mediated dephosphorylation of NFAT.<sup>1-3</sup> At 100  $\mu M$ , this inhibitor effectively blocks calcineurin binding to NFAT without disrupting other calcineurin-dependent pathways, unlike the immunosuppressants cyclosporin A and FK506 (Item No. 10007965) which indiscriminately block all calcineurin phosphatase activity.<sup>1,3</sup> NFAT inhibitor can disrupt NFAT-dependent expression of IL-2 and TNF- $\alpha$  when transfected in Jurak T cells and can prevent the activation and proliferation of T cells both *in vitro* ( $\sim 43\%$  at 1  $\mu M$  using mixed lymphocyte cultures) and *in vivo* (10 mg/kg using C3H/HeN mice).<sup>3</sup>

### References

1. 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).
2. Michne, W.F., Schroeder, J.D., Guiles, J.W., *et al.* Novel inhibitors of the nuclear factor of activated T cells (NFAT)-mediated transcription of  $\beta$ -galactosidase: Potential immunosuppressive and antiinflammatory agents. *J. Med. Chem.* **38**(14), 2557-2569 (1995).
3. 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).

#### 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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 07/28/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897  
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM