# **PRODUCT** INFORMATION



## trans-Ned-19

Item No. 17527

Formal Name: (1R,3S)-1-[3-[[4-(2-fluorophenyl])- 0   1-piperazinyl]methyl]-4- 0	
1-piperazinyl]methyl]-4-	
methoxyphenyl]-2,3,4,9-	
tetrahydro-1H-pyrido[3,4-b]	
indole-3-carboxylic acid	
MF: $C_{30}H_{31}FN_{4}O_{3}$	
FW: 514.6	
Purity: ≥98%	
UV/Vis.: $\lambda_{max}$ : 222, 272 nm	
Supplied as: A crystalline solid	//
Storage: -20°C	_ /
Stability: ≥4 years	

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

#### Laboratory Procedures

trans-Ned-19 is supplied as a crystalline solid. A stock solution may be made by dissolving the trans-Ned-19 in the solvent of choice, which should be purged with an inert gas. trans-Ned-19 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of trans-Ned-19 in these solvents is approximately 2 and 10 mg/ml, respectively.

trans-Ned-19 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, trans-Ned-19 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. trans-Ned-19 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

#### Description

Nicotinic acid adenine dinucleotide phosphate (NAADP) is a dinucleotide second messenger that triggers the release of calcium from lysosomes and related cellular compartments.<sup>1</sup> trans-Ned-19 is a structural analog of NAADP that blocks NAADP-dependent calcium release (IC<sub>50</sub> = 6 nM) as well as NAADP binding to sea urchin egg homogenate ( $IC_{50} = 0.4 \text{ nM}$ ).<sup>2</sup> The *trans* form of Ned-19 is significantly more potent than the *cis* isomer in both assays.<sup>2</sup> Ned-19 does not affect either IP<sub>3</sub>-mediated calcium release or cyclic ADP-ribose-mediated calcium release.<sup>2</sup> It directly binds NAADP receptors on lysosomes in mouse pancreatic beta cells and competitively antagonizes activation by NAADP.<sup>2,3</sup> It inhibits glucose-induced calcium oscillations in pancreatic islets and insulin-induced calcium increases in 3T3-L1 adipocytes.<sup>2,4</sup> Ned-19 also blocks calcium signaling induced by endothelin-1 or norepinephrine in renal afferent arterioles.<sup>5</sup> Ned-19 dose-dependently reduces infection of host cells by Ebola virus.<sup>6</sup>

#### References

- 1. Lam, A.K.M. and Galione, A. Biochim. Biophys. Acta 1833(11), 2542-2559 (2013).
- 2. Naylor, E., Arredouani, A., Vasudevan, S.R., et al. Nat. Chem. Biol. 5(4), 220-226 (2009).
- 3. Rosen, D., Lewis, A.M., Mizote, A., et al. J. Biol. Chem. 284(50), 34930-34934 (2009).
- 4. Song, E.K., Lee, Y.R., Kim, Y.R., et al. Cell Rep. 2(6), 1607-1619 (2012).
- 5. Sakurai, Y., Kolokoltsov, A.A., Chen, C.C., et al. Science 347(6225), 995-998 (2015).
- 6. Thai, T.L., Churchill, G.C., and Arendshorst, W.J. Am. J. Physiol. Renal. Physiol. 297(2), F510-F516 (2009).

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

#### SAFFTY 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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