Product Data Sheet

Product Name: AtPep1 TFA
Cat. No.: GC80849

Chemical Properties

Cas. No.			
Formula	$C_{104}H_{183}N_{39}O_{32}{\cdot}xC_2HF_3O_2$	M.Wt	2491.81
Solubility	DMSO: 25 mg/mL (Need ultrasonic)	Storage	Store at -20°C, away from moisture
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Ala-Thr-Lys-Val-Lys-Ala-Lys-Gln-Arg-
Gly-Lys-Glu-Lys-Val-Ser-Ser-Gly-Arg-
Pro-Gly-Gln-His-Asn (TFA salt)

Background

AtPep1 TFA is an endogenous inducer of innate immune responses. AtPep1 TFA can be isolated from Arabidopsis thaliana leaves. AtPep1 TFA activates the transcription of defensin (PDF1.2), the expression of PROPEP1, the synthesis of hydrogen peroxide (H 2 O 2) near leaf veins, and the

alkalization of Arabidopsis suspension cell culture medium. AtPep1 TFA induces the expression of genes encoding defensins and PR-1. AtPep1 TFA is applicable to studies related to Pythium irregulare infection and pathogen infection [1] [2].

In Vitro, AtPep1 (20 min) TFA induces medium alkalization in suspension-cultured Arabidopsis thaliana cells, with a half-maximal activity of approximately 0.25 nM[1]. AtPep1 (10 nM; 2 h) TFA induces the expression of PROPEP1 and PDF1.2 genes in detached leaves of Arabidopsis thaliana (Columbia ecotype). This response depends on functional jasmonic acid and ethylene pathways, and is partially dependent on NADPH oxidase activity[1]. AtPep1 (10 nM; 2 h) TFA induces vein-associated H2O2 accumulation in detached leaves of Arabidopsis thaliana (Columbia ecotype)[1].

References:
[1]. Huffaker A, et al. An endogenous peptide signal in Arabidopsis activates components of the innate immune response. Proc Natl Acad Sci U S A. 2006;103(26):10098-10103.
[2]. Pearce G, et al. Structure-activity studies of AtPep1, a plant peptide signal involved in the innate immune response. Peptides. 2008;29(12):2083-2089.