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## Product Data Sheet

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Product Name: Systemin

Cat. No.: GC30579

### Chemical Properties

Cas. No. 137181-56-7

SMILES Ala-Val-Gln-Ser-Lys-Pro-Pro-Ser-Lys-Arg-Asp-Pro-Pro-Lys-Met-Gln-Thr-Asp

Formula  $C_{85}H_{144}N_{26}O_{28}S$  M.Wt 2010.28

Solubility Soluble in Water Storage Store at -20°C

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

### Background

Systemin, an 18-amino acid polypeptide, has been isolated from tomato leaves that is a powerful inducer of over 15 defensive genes.

Systemin is readily transported from wound sites and is considered to be the primary systemic signal. The signal transduction pathway that mediates Systemin signaling involves linolenic acid release from membranes and subsequent conversion to jasmonic acid, a potent activator of defense gene transcription. The pathway exhibits analogies to arachidonic acid/prostaglandin signaling in animals that leads to inflammatory and acute phase responses[1]. Systemin, an 18-amino-acid peptide signal. Systemin is cleaved from the C-terminal region of a 200-amino acid precursor protein called proSystemin. Following the cloning of proSystemin gene, which represents a single locus in the tomato genome, several lines of genetic evidence indicate that Systemin acts as an upstream component of wound-induced signaling cascades leading to defense gene expression[2].

[1]. Ryan CA, et al. Systemin: a polypeptide signal for plant defensive genes. *Annu Rev Cell Dev Biol.* 1998;14:1-17. [2]. Sun JQ, et al. Systemin/Jasmonate-mediated systemic

**Caution: Product has not been fully validated for medical applications. For research use only.**

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defense signaling in tomato. Mol Plant. 2011 Jul;4(4):607-15.

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