

Systemin

Cat. No.:	HY-P0279
CAS No.:	137181-56-7
Molecular Formula:	C ₈₅ H ₁₄₄ N ₂₆ O ₂₈ S
Molecular Weight:	2010.3
Sequence:	Ala-Val-Gln-Ser-Lys-Pro-Pro-Ser-Lys-Arg-Asp-Pro-Pro-Lys-Met-Gln-Thr-Asp
Sequence Shortening:	AVQSKPPSKRDPPKMQTD
Target:	Others
Pathway:	Others
Storage:	Sealed storage, away from moisture and light, under nitrogen Powder -80°C 2 years -20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light, under nitrogen)

BIOLOGICAL ACTIVITY

Description	Systemin, an 18-amino acid polypeptide, has been isolated from tomato leaves that is a powerful inducer of over 15 defensive genes.
In Vitro	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] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

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

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

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