Flagelin 22

Cat. No.:	HY-P1568
CAS No.:	304642-91-9
Molecular Formula:	$C_{93}H_{162}N_{32}O_{34}$
Molecular Weight:	2272
Sequence:	Gln-Arg-Leu-Ser-Thr-Gly-Ser-Arg-Ile-Asn-Ser-Ala-Lys-Asp-Asp-Ala-Ala-Gly-Leu-Gln-Ile-Ala
Sequence Shortening:	QRLSTGSRINSAKDDAAGLQIA
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Flagelin 22 (Flagellin 22), a fragment of bacterial flagellin, is an effective elicitor in both plants and algae[1][2][3].
In Vitro	Flagelin 22 (100 nM, 1 or 24 h) activates a gene that triggers immunity (PTI) and leads to reduced expression of growth-promoting hormone brassinolide (BR) biosynthesis in plants[2]. Flagelin 22 (10 μM, 4 h) regulates the release of ethylene reactive factor substrate in Arabidopsis MAP kinase 6 by ethylene signaling[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	One milliliter of the female gametophytes is added to 100 mL sterilized seawater containing 1 μM of Flagelin 22, flg15, flg14, and flg22D43A, respectively. Controls are sterilized seawater and 0.1% BSA in sterilized seawater. Gametophytes are grown at 10°C with a 24-h photoperiod at 50 μmol photons m^{-2} s^{-1}. Sterilized seawater medium is provided with 0.2 mM KNO_3, 0.02mM KH_2PO_4, and 1 μM of the four respective peptides and refreshed every week. The gametophytes are briefly blotted dry, and the fresh weight is measured after 40 days[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Commun. 2021 Jul 15;12(1):4327.
- Plant Biotechnol J. 2021 Jul 12.

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REFERENCES

[1]. Jiménez-Góngora T, et al. Flg22-Triggered Immunity Negatively Regulates Key BR Biosynthetic Genes. Front Plant Sci. 2015 Nov 9;6:981.

[2]. Bethke G, et al. Flg22 regulates the release of an ethylene response factor substrate from MAP kinase 6 in Arabidopsis thaliana via ethylene signaling. Proc Natl Acad Sci U S A. 2009 May 12;106(19):8067-72.

[3]. Bojun Lu, et al. Defense responses in female gametophytes of Saccharina japonica (Phaeophyta) induced by flg22-derived peptides. Journal of Applied Phycology (2016), 28(3), 1793-1801.

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

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