Journal of Plant Genetics and Breeding

Microproteins of Plants: Small but Potent Regulators of Plant Growth

Lavanya Bhag*

Abstract

MicroProteins (miPs) are proteins with a single domain that are less than 20 kDa in size. This space permits microProteins to collaborate with viable areas of transformative related proteins and adjust the vital physiological

have been distinguished in plants by computational methodologies. Nonetheless, a couple of up-and-comers have been practically described, basically in Arabidopsis. The new progress of manufactured microProteins in tweaking physiological exercises in crops makes these proteins fascinating contender for crop designing. Here, we exhaustively

utilized to target proteins directing plant development and improvement. We at long last feature the possibilities and

K **:** Biomolecules; Plant science; Plant improvement

I

Microproteins are a class of small proteins that play important roles in various biological processes [1]. ey are characterized by their small size, typically consisting of less than 100 amino acids, and their ability to interact with larger proteins or regulatory molecules to modulate cellular functions. In recent years, microproteins in plants have gained signi cant attention due to their diverse functions and potential applications in crop improvement and biotechnology.

Plant microproteins are involved in a wide range of physiological processes, including development, signal transduction, stress responses, and defense mechanisms. Despite their small size, these proteins can have signi cant impacts on plant growth and adaptation to changing environmental conditions. ey o en act as regulatory elements in complex molecular networks, modulating the activity of larger proteins or acting as molecular switches.

e discovery and characterization of plant microproteins have been facilitated by advancements in genomic and proteomic technologies [2]. High-throughput sequencing and mass spectrometry techniques have enabled the identi cation and quanti cation of microproteins in plant tissues. Additionally, genetic and biochemical approaches have helped elucidate their functions and mechanisms of action.

One of the well-known examples of plant microproteins is the small signaling peptide family. ese peptides are involved in intercellular communication and play crucial roles in plant development, such as root growth, stomatal regulation, and ower development. Another example is the microProtein 1 (miP1) family, which regulates owering time in Arabidopsis thaliana.

e study of plant microproteins is still in its early stages, and many more microproteins and their functions are yet to be discovered [3]. Understanding the roles and mechanisms of action of these small proteins could have signi cant implications for improving crop yields, enhancing stress tolerance, and designing novel biotechnological applications in agriculture.

In summary, microproteins are small but functionally important proteins in plants. eir roles in various biological processes make them intriguing targets for further research and exploration. By unraveling their functions and mechanisms, scientists aim to uncover new ways to manipulate plant traits and enhance crop productivity.

***Corresponding author:** Lavanya Bhag, Department of Biological Sciences, Indian Institute of Science Education and Research (IISER) Bhopal, Madhya Pradesh 462066, India, E-mail: lb.lavanya@gmail.com

Received: 03-July-2023, Manuscript No. jpgb-23-105183; **Editor assigned:** 05-July-2023, PreQC No. jpgb-23-105183 (PQ); **Reviewed:** 19-July-2023, QC No. jpgb-23-105183, **Revised:** 22-July-2023, Manuscript No. jpgb-23-105183 (R); **Published:** 29-July-2023, DOI: 10.4172/jpgb.1000159

Citation: Bhag L (2023) Microproteins of Plants: Small but Potent Regulators of Plant Growth. J Plant Genet Breed 7: 159.

A, a, .