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## Brassinosteroids and Rice Architecture

Zhi Hong<sup>1)</sup>, Miyako Ueguchi-Tanaka<sup>1)</sup> and Makoto Matsuoka<sup>1)</sup>

1) Bioscience and Biotechnology Center, Nagoya University

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### Abstract:

Studies on brassinosteroid (BR) function in dicot plants have provided definitive proof that BRs regulate a broad range of cellular responses, and revealed that BRs are essential for plant development and growth. However, prior to our studies of BR mutants of rice, there had been no reports dealing with the molecular biological function of BRs in monocot plants. We have isolated and characterized three independent BR-related mutants of rice. All three exhibit a common phenotype: erect leaves, shortened internodes, and constitutive photomorphogenesis in the dark. The erect leaves with shortened culms suggested that the BR-related phenotype might improve crop architecture and, thereby, increase crop yield. Indeed, recently, it was revealed that a semi-dwarf barley cultivar, *uzu*, contains a single nucleotide mutation in the BR receptor gene, *BR11*.

### Keywords:

brassinosteroid, rice, dwarf, breeding



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