



Glycoconjugate Biochemistry and Molecular Biology Group



School of Chemistry, Institute of Science
Center for Biomolecular Structure, Function and Application, Suranaree University of Technology,
Nakhon Ratchasima, Thailand

- Functional roles of β -glucosidase enzyme in rice
- Response of rice to biotic and antibiotic stress
- Glycosphingolipid metabolism in humans and plants
- Structural and mechanistic basis for substrate specificity in β -glucosidases
- Protein engineering and application of β -glucosidases

Group members



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Funding resource



RGJ Ph.D.

Scopus

- *h*-index: 21
- Document by author: 72
- Total citation: 1195

Former Ph.D. students

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Methods of investigation

- Molecular Cloning
- Recombinant protein expression
- Protein purification
- Protein Crystallography
- Site-directed mutagenesis
- Chemo enzymatic synthesis of inhibitors
- Enzymatic characterization

Selected Recent Publications

- Demonstration of monoglucosyl β -glucosidase activity of rice Os4BGlu14, Os4BGlu16 and Os4BGlu18 in *Arabidopsis thaliana* bglu45 mutant. *Plant Physiology and Biochemistry*. 127: 223-230.
- Bacterial β -glucosidase reveals the structural and functional basis of genetic defects in human glucocerebrosidase 2 (GBA2). *ACS Chemical Biology*. 11(7): 1891-1900.
- Structure of a plant β -galactosidase C-terminal domain. *Biochimica et Biophysica Acta (BBA)-Proteins and Proteomics*. 1864(10): 1411-1418.
- Identification of fatty acid glucose esters as Os9BGlu31 transglucosidase substrates in rice flag leaves. *Journal of Agricultural and Food Chemistry*. 63(44): 9764-9769.
- β -Glucosidases: multitasking, moonlighting or simply misunderstood? *Plant Science*. 241: 246-259.
- A single glycosidase harnesses different pyranoside ring transition state conformations for hydrolysis of mannosides and glucosides. *ACS Catalysis*. 5(10): 6041-6051.
- Identification of rice Os4BGlu13 as a β -glucosidase which hydrolyzes gaberbellin A4 1-O- β -D-glucosyl ester, in addition to tuberonic acid glucoside and salicylic acid derivative glucosides. *Archives of Biochemistry and Biophysics*. 583: 36-46.

Collaborations

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