

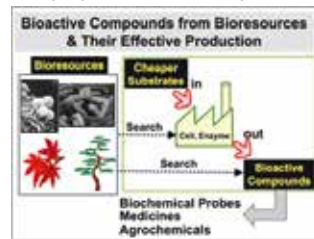
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Aiming for use in medicine and agrochemicals, we are conducting
1: Search for natural bioactive compounds (highly functional compounds)
2: Research on biocatalyst-mediated conversion of low-functional substances.

Search and use of new enzymes effective for production of useful substances

- (1) We can synthesize various dehydrogenated cyclic dipeptides by using the novel cyclic dipeptide oxidase that we found in actinomycetes. We are investigating various properties of this unique enzyme and conducting applied research on highly sensitive detection of cyclic dipeptide and production of dehydrogenated cyclic dipeptide using this enzyme.
- (2) We are preparing new antioxidant active substances by enzymatic conversion from olive secondary metabolites, and are studying their usage.
- (3) We are conducting a detailed study of microbial enzymes that show characteristic transglycosylation activity.
- (4) We are studying methods for treating woody biomass with



Search for chitinolytic enzyme inhibitors and analysis of their bioactivity

The epidermis of insects and the cell wall of filamentous fungi contain the polysaccharide chitin. Since the metabolism of chitin is essential for the growth of insects and filamentous fungi, the enzymes responsible for the metabolism of chitinase and β -N-acetylglucosaminidase are expected to be applied to pest control agents and antibacterial agents. We have conducted research to find inhibitors of these enzymes in microbial metabolites. We have discovered two novel β -N-acetylglucosaminidase (GlcNAcase) inhibitors with distinct specificity. We are trying to elucidate the molecular basis of their inhibitory specificity and to search further novel GlcNAcase inhibitors.

