

Molecular Characterization of Lipase Gene from Rice
(*Oryza sativa* cv. Dongjin)

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Lipases are useful enzymes that are primarily responsible for the hydrolysis of acylglycerides in lipid processing. A cDNA clone of the lipase was isolated from rice seed coat cDNA library(*Oryza sativa* cv. Dongjin). The cloned lipase cDNA consists of 1,445 bp long encoding 361 amino acid residues. The sequence showed no extensive homology to mammalian and microbial lipases, but a number of plant lipases, including rice and arabidopsis lipase genes, were found to be related to this gene. The deduced nucleic acid sequence shows 78% and 52% identity to lipase genes of other *Oryza sativa* and *Arabidopsis thaliana*, respectively. To estimate the copy number of lipase genes in rice bran(*Oryza sativa* cv. Chuchung)genome, Southern hybridization analysis showed that rice bran has a single copy of the lipase gene. *Oryza sativa* lipase gene was also expressed in *Escherichia coli* under the control of *lacZ* promoter. Lipase activity in the *E. coli* clone was found mainly in the pellet fraction. In SDS/PAGE analysis, the size of lipase was about 40kDa.

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