The Laboratory of Pharmaceutical Engineering

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The Laboratory of Pharmaceutical Engineering established on June 2007 , has evolved from Department of Molecular and Pharmaceutical Biotechnology affiliated to the School of Biotechnology at Jiangnan University, is committed to microbial metabolic engineering and bio-pharmaceutical research direction.

Due to powerfully innovative ability, more than 20 research projects, including some projects from National Significant Drug Initiative Program, 973 Program, 863 Program, National Science and Technological Support Key Projects Program, NSF Program from Chinese Government, as well as national cooperation projects, have been taken charge of or part in by the team members of this Lab.

Research interests

1. Development and application of gene recombinant peptide/protein drugs
2. Research and development in microbial metabolic engineering
3. Development and application of new biocatalysts
4. Research and utilization in edible and medicinal fungi
5. Optimizing traditional industrial microbiological processes utilizing modern biological technology

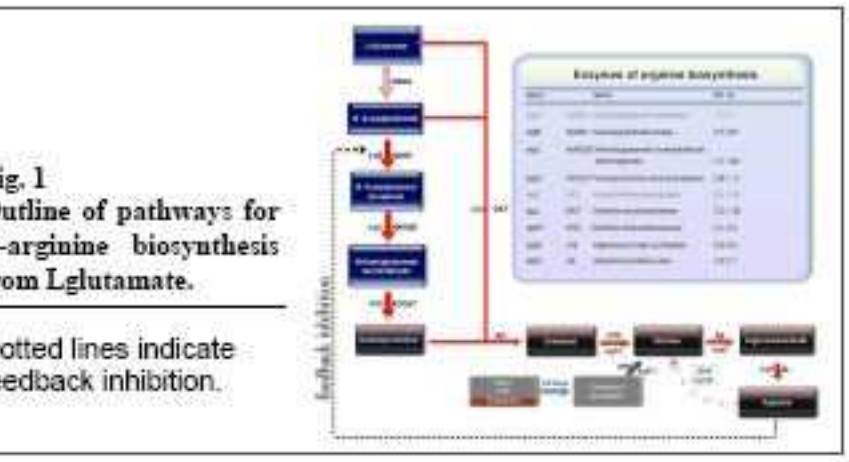

Fig. 1
Outline of pathways for L-arginine biosynthesis from Lglutamate.

Dotted lines indicate feedback inhibition.

Fig.2 Morphology in nature of edible and medicinal mushrooms

Fig.3 Morphology of mushrooms in submerged culture

Selected Publications

1. Gong JS, Lu ZM, Shi JS, Dou WF, Xu HY, Zhou ZM, Xu ZH. Isolation, Identification, and Culture Optimization of a Novel Glycinonitrile-Hydrolyzing Fungus—Fusarium oxysporum H3. *Appl Biochem Biotechnol* (2011) DOI 10.1007/s12010-011-9312-1
2. Xu MJ, Rao Z, Dou WF, Yang J, Jin J, Xu ZH. Site-directed mutagenesis and feedback-resistant N-acetyl-L: -glutamate kinase (NAGK) increase Corynebacterium crenatum L: -arginine production. *Amino Acids* (2011) DOI 10.1007/s00726-011-1069-x
3. Lu ZM, Tao WY, Xu HY, Ao ZH, Zhang XM, Xu ZH. Further studies on the hepatoprotective effect of Antrodia camphorata in submerged culture on ethanol-induced acute liver injury in rats. *Natural Product Research* (2010) 1: 1-12.
4. Xu H, Dou WF, Xu HY, Zhang XM, Rao ZM, Shi ZP, Xu ZH. A two-stage oxygen supply strategy for enhanced l-arginine production by Corynebacterium crenatum based on metabolic fluxes analysis. Biochem Eng J (2009) 43: 41-51.
5. Ao ZH, Xu ZH, Lu ZM, Xu HY, Zhang XM, Dou WF. Niuchangchih (Antrodia camphorata) and its potential in treating liver diseases. J Ethnopharmacol (2009) 121: 194-212.

Awards & Honors

The First Prize for Science and Technology Progress of China General Chamber Of Commerce in 2009

Lab Members

Professor
Zhenghong Xu Jingsong Shi
Research Associate
Hongyu Xu Xiaomei Zhang Wenfang Dou
Zhengming Lu Heng Li Hui Li Yan Geng
Technical Staff
Dandan Zhang Jianying Qian
More than 10 undergraduate students, and more than 40 graduate students have been enrolled every year.