The secretome of Aspergillus terreus grown in different media

한미정, 이상엽[1,*], 김낙종[1], 장호남[1]
동양대학교 생명화학공학과; [1]KAIST 생명화학공학과
(leesy@kaist.ac.kr*)

Aspergillus terreus not only comprises an important class of organisms that have significant commercial relevance to the biotechnology industry, but also is an emerging fungal pathogen. Secreted proteins are of special interest in the study of biotechnology or fungal pathogens. To identify these proteins, the excreted proteins of A. terreus were analyzed by 2-DE and nano-LC-MS/MS. A total of 82 protein spots corresponding to 39 unique proteins were identified under different culture conditions using sucrose, glucose, or starch as the main carbon source. Both oryzin and a predicted protein were the most abundant in the three media. Most of the identified proteins belong to the hydrolase family, including hydrolases, glycosylases, and proteases. These results will be useful to study protein excretion in further detail and to provide new strategies for enhanced excretory production of recombinant proteins in fungi. [This work was supported by the Korean Systems Biology Research Grant (20090065571) of Ministry of Education, Science and Technology (MEST) to S.Y. Lee through the National Research Foundation (NRF) and the Converging Research Center Program from the NRF (2009-0093652) to M.-J. Han]