Fungal Genetics Reports

Volume 22 Article 9

Enzyme activities in aged conidia of N. crassa

Z. Gampel
Universidad de Buenos Aires

C. D. Denoya
Universidad de Buenos Aires

N. O. Aversa
Universidad de Buenos Aires

See next page for additional authors

Recommended Citation

Gampel, Z., C.D. Denoya, N.O. Aversa, and A.J. Jobbagy (1975) "Enzyme activities in aged conidia of N. crassa," *Fungal Genetics Reports*: Vol. 22, Article 9. https://doi.org/10.4148/1941-4765.1784

Enzyme activities in aged conidia of N. crassa

Abstract

Enzyme activities in aged conidia of N. crassa

Authors

Z. Gampel, C. D. Denoya, N. O. Aversa, and A. J. Jobbagy

Gampel, Z., C.D. Denoya, N. O. Aversa, and A.J. Jobbágy.

Enzyme activities in aged conidia of N. crassa

As a port of a brooder program directed toward a better understanding of the macromolecular changer occurring during the ageing process, several enzyme activities were determined in young (7- to P-day-old) and aged(24- and 28-doy-old) conidio of the wild type *strain* 74-OR23-1A (FGSC #987).

The results, summarized on Table 1, show that the decline in activities of the five enzymes investigated until now, shows ageing patterns which do not parallel the decline in viability of the cells. Evidently, the aged conidio are able to overcome the shortage of vital enzymes and germinate, since a drastic diminution of important enzyme activities (the presence of undetectable vestigial activities cannot be ruled out) like those of aspartate transcarbamylase and NADP-dependent glutamate dehydrogenare are not reflected in a similar loss in viability. These results do not exclude the possibility that one or more key enzymes could show activity variations paralleling the decoy in survival, and the central question whether the diminution of enzyme activity (or activities) is a cause or an effect of the ageing process, *remains* open.

Table 1. Viablility and Enzyme Activities in Aged Conidia.

	Age of the conidio	
	24 days	28 days
Viability:	46 %	35 %
Enzyme;:		
Aspartate transcarbamylase (EC 2. 1.3.2)	2	> 0.2
Ornithine transcarbamylase (EC 2.1 .3.3)	50	52
Glutamate dehydrogenase- (NADP) (EC 1.4.1.4)	20	> 0.1
Glucose-6-phosphate dehydrogenore (EC 1.1.1.49)	65	65
6-phosphogluconate dehydrogenore (EC 1. 1, 1.44)	80	80

The absolute viability of young conidio was 65 ±5% in our culture conditions and in different experiments. Activities ore expressed as percentage of the values corresponding to young conidia (100%). Growth, conidiation and ageing occurred in 250 ml erlenmeyer flasks containing 50 ml of Vogel's solid minimal medium. The temperature was 25°-27° C. Harvesting, washing with distilled water and grinding of the spores were done at 0°-4° C. Enzyme activities were determined in crude extracts by standard array methods.

This work was supported by grants No. 5473 and No. 5511 of the Consejo Nacional de Investigaciones Cientificos y Tecnicas of Argentina. - - - Universidad de Buenos Aires, Facultad de Farmacia y Bioquimica, Departmento de Ciencias Biologicas, Junin 956, Buenos Aires, Argentina.