

EXPRESSION OF MITOCHONDRIAL GENES IN *Neurospora Crassa*

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The germinating asexual spores (conidia) of *Neurospora crassa* were employed to study steps in the accumulation of transcripts of groups of mitochondrial genes, including those for peptide subunits of cytochrome c oxidase (CO), ATPase (ATP), and apocytochrome b (COB).

Physically clustered groups of genes were expressed as cohorts: transcripts of the ATP8-ATP6-mtATP9-CO2 genes were almost undetectable in the dormant spores, and they accumulated rapidly as a group immediately after spore activation. Transcripts of COB and the adjacent CO1 were abundant in the dormant spores; and, the dormant and germinating spores contained size forms of the COB transcripts that were not evident in vegetative cells. Polyribosomes were prepared from mitochondrial lysates, and the polyribosomal RNA was probed to identify the mRNAs of specific genes; in several instances polycistronic mRNAs were present in the polyribosomes as were the smaller end-products of the inferred transcript processing pathways.

The expression of the physically dispersed genes for subunit peptides of cytochrome c oxidase appears to be regulated at the level of translation; these transcripts are accumulated in the total mitochondrial RNA with sharply different kinetics, but they appeared in the polyribosomes uniformly, their appearance correlating with the uniform synthesis of the subunit peptides.

Transcripts for a previously reported non-functional mitochondrial gene, homologous to the functional nuclear gene for ATPase subunit 9, were found in the germinating spores, but were not detected in vegetative cells. These mtATP9 transcripts were also present in the polyribosomes and were apparently translated into a protein *in vivo* whose synthesis was insensitive to cycloheximide and detectable with an anti-ATP9 subunit antibody. Transcripts for two nuclear genes for mitochondrially localized proteins, ATP9 and CO5, were accumulated in unison and especially rapidly during spore germination.



Curso Internacional Teórico-Práctico Inmunología y Patogénesis de *Neisseria meningitidis*

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*Centro de Ingeniería Genética y Biotecnología,
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El Centro de Ingeniería Genética y Biotecnología (CIGB) se complace en invitarle a participar en el curso internacional teórico-práctico de inmunología y patogénesis de *Neisseria meningitidis*, que se impartirá del 2 al 13 de diciembre de 1996 en las instalaciones del CIGB, C. Habana, Cuba. Este curso (40 h de clases teóricas y 20 h de clases teórico-prácticas) pretende dar una visión actualizada del estado de las investigaciones en el tema de la meningitis meningocócica, así como de las técnicas de biología molecular avanzada que sirven de herramienta fundamental en este trabajo. Además, propiciará el intercambio de conocimientos y experiencias entre los investigadores dedicados a esta rama, fundamentalmente en los países de América Latina.

Los temas del curso comprenden, entre otros: microbiología clínica e inmunología; epidemiología y diagnóstico; biología molecular de los principales antígenos de la membrana externa; vacunas; modelos animales para la enfermedad meningocócica.

El curso tendrá una matrícula máxima de 30 estudiantes. La cuota de inscripción es de 620 USD, que asegura alojamiento por 12 noches, desayuno, almuerzo y comida, actividades sociales de bienvenida y clausura, así como el material didáctico del curso.

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