Protein protein and dna protein transactions during gene activation activator sigma n contacts and the dna melting activity of the sigma n activator complex

Fact Sheet

Project Information

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Project closed

Start date
1 June 1996

End date
31 May 1998

Funded under
Specific research and technological development programme in the field of the training and mobility of researchers, 1994-1998

Total cost
No data

EU contribution
No data

Coordinated by
IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE
United Kingdom

Objective

Determination of the critical protein-protein interactions in transcription systems and in particular between sigma-N and its activator, and the contribution of the sigma-N holoenzyme-activator complex to the DNA strand separation (melting) process are essential for the understanding of the mechanism of transcriptional activation of the RNA polymerase holoenzyme. The sigma-N protein is well suited to analysis as biochemically active domains have been isolated. The overall aims of the proposed work are to: (a) Locate the putative protein-protein interactions between activator and the sigma-N protein, that appear to be critical for activation of RNA polymerase holoenzyme.
(b) Identify promoter DNA-contact regions of the sigma-N holoenzyme-activator complex during catalysis of open complex formation. (c) Mutate candidate DNA and activator contact regions of sigma-N identified as described above. Screen mutants defective in either a DNA contact during DNA melting and/or activation interaction.
(d) Analyse the DNA-melting process, dependent of the formation of the sigma-N holoenzyme-activator complex.

Fields of science (EuroSciVoc)

natural sciences > biological sciences > biochemistry > biomolecules > proteins > **proteomics**

natural sciences > biological sciences > genetics > **DNA**

natural sciences > chemical sciences > **catalysis**

natural sciences > biological sciences > genetics > **RNA**

Programme(s)

FP4-TMR - Specific research and technological development programme in the field of the training and mobility of researchers, 1994-1998

Topic(s)

0302 - Post-doctoral research training grants

TL02 - Molecular Biology and Biochemistry

Call for proposal

Data not available

Funding Scheme

RGI - Research grants (individual fellowships)

Coordinator

IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE

EU contribution

No data

Total cost

No data

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Not available

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EU contribution

No data

Address

Total cost

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