## NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

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NPTEL Video Course - Chemistry and Biochemistry - Eukaryotic Gene Expression - basics and benefits
Subject Co-ordinator - Prof. P.N. Rangarajan
Co-ordinating Institute - IISc - Bangalore
Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable
Lecture 1 - Eukaryotic RNA polymerases and basal transcription factors
Lecture 2 - Diversity in core promoter elements
Lecture 3 - Diversity in general transcription factors
Lecture 4 - Proximal & Distal Promoter Elements, Enhancers and Silencers, Gene-specific Regulators
Lecture 5 - Transcription factors - DNA binding domains
Lecture 6 - Transcription factors - Transcription activation domain
Lecture 7 - Role of chromatin in eukaryotic gene regulation
Lecture 8 - Role of histones in eukaryotic gene regulation
Lecture 9 - Role of DNA methylation in eukaryotic gene regulation
Lecture 10 - Chromatin remodelling & gene regulation
Lecture 11 - mRNA processing - Role of RNA Pol II in mRNA capping and mRNA splicing
Lecture 12 - mRNA processing - Role of RNA Pol II in polyadenylation & mRNA editing
Lecture 13 - Regulation of RNA Pol I transcription
Lecture 14 - Regulation of RNA Pol III transcription
Lecture 15 - Signal Transduction Pathways - Introduction
Lecture 16 - Regulation of gene expression by cyclicAMP
Lecture 17 - Regulation of gene expression by second messengers other than cAMP
Lecture 18 - Regulation of gene expression by Protein Kinase C
Lecture 19 - Regulation of gene expression by Growth factors
Lecture 20 - Regulation of gene expression by cytokines
Lecture 21 - Regulation of gene expression by steroid hormones
Lecture 22 - Regulation of gene expression by type II nuclear receptors
Lecture 23 - Mechanism of transcriptional activation by nuclear receptors
Lecture 24 - Gene Regulation during Drosophila Development
Lecture 25 - Signal transduction pathways involved in embryonic development
Lecture 26 - Homeotic genes
Lecture 27 - Epigenetic regulation of gene expression during development
Lecture 28 - Embryonic stem cells and Transcription factor-mediated epigenetic reprogramming
Lecture 29 - Cloning and Expression vectors
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Lecture 30 - Eukaryotic protein expression systems - I
Lecture 31 - Eukaryotic protein expression systems - II
Lecture 32 - Eukaryotic protein expression systems - III
Lecture 33 - Human Gene Therapy
Lecture 34 - DNA vaccines
Lecture 35 - Transgenic animals
Lecture 36 - Transgenic plants
Lecture 37 - Knockout mic
Lecture 38 - Regulation of Eukaryotic Gene Expression by Small RNAs (RNA Interference, RNAi)
Lecture 39 - Genomics & Proteomics
Lecture 40 - Metabolic Engineering & Synthetic Biology
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