

POGIL - Gene Expression: Transcription

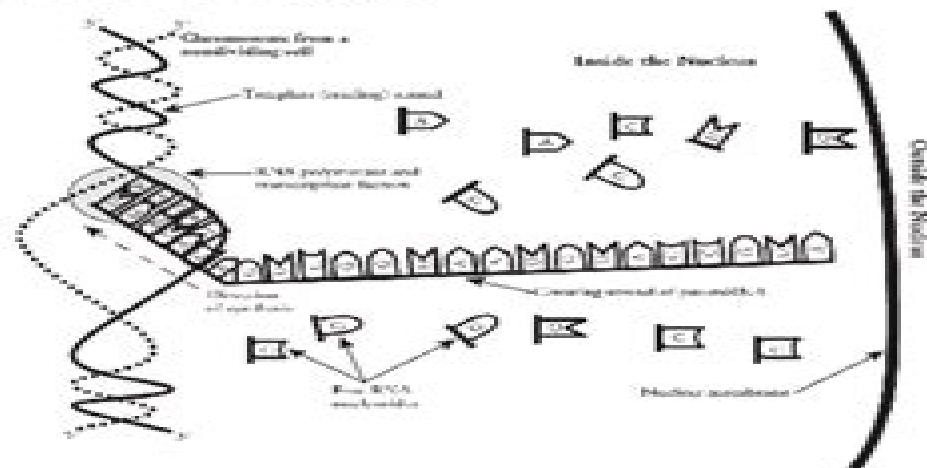
How is mRNA synthesized and what message does it carry?

Why?

Deoxyribonucleic DNA is often referred to as a genetic blueprint. In the same way that blueprints contain the instructions for construction of a building, the DNA found inside the nuclei of cells contains the instructions for assembling a living organism. The DNA blueprint carries its instructions in the form of genes. In most cases the genes direct the production of a polypeptide, from which other more complex proteins, such as enzymes or hormones, may be constructed. These polypeptides and other molecules run the organism's metabolism and, in multicellular

organisms, dictate what each cell's job is. So, what is the language of these instructions and how are they read and decoded by the cellular organelles? This activity will focus on the decoding of genes in eukaryotes.

Model 1 - Transcription



1. Consider the eukaryotic cell in Model 1.

a. Where in the cell is the DNA found?

b. Where in the cell does transcription take place?

2. Refer to Model 1.

a. What polymer is synthesized during transcription?

b. What monomers are used to construct this polymer and where are they found?

3. According to Model 1, what enzyme is required for transcription? (*Hint: Think about how enzymes are named. What ending is used for enzyme names?*)

4. Refer to Model 1.

a. What is the base-pair rule for a DNA strand matching an RNA strand?

b. Compare this base-pair rule with that of two DNA strands.

5. Which strand of the DNA contains the "blueprint" for the pre-mRNA?

6. Consider Model 1.

a. In which direction is the DNA molecule read? _____

b. The DNA strand and pre-mRNA strand are anti-parallel. With this in mind label the 3' and 5' ends of the pre-mRNA strand in Model 1.

c. In which direction is the pre-mRNA molecule constructed? _____

7. Before printing presses were available, books had to be transcribed in order to share the information

Pogil 15 Gene Expression

Joseph Ilan



Pogil 15 Gene Expression:

Gene Expression, Translation and the Behavior of Proteins Lester Goldstein, 1980 *Gene Expression and Regulation in Mammalian Cells* Fumiaki Uchiumi, 2018-02-28 Sixty years after the central dogma great achievements have been developed in molecular biology We have also learned the important functions of noncoding RNAs and epigenetic regulations More importantly whole genome sequencing and transcriptome analyses enabled us to diagnose specific diseases This book is not only intended for students and researchers working in laboratory but also physicians and pharmacists This volume consists of 14 chapters divided into 4 parts Each chapter is written by experts investigating biological stresses epigenetic regulation and functions of transcription factors in human diseases All articles presented in this volume by excellent investigators provide new insights into the studies in transcriptional control in mammalian cells and will inspire us to develop or establish novel therapeutics against human diseases

Inducible Gene Expression, Volume 1 P.A. Baeuerle, 1994-12-22 Cells have evolved multiple strategies to adapt the composition and quality of their protein equipment to needs imposed by changes in intra and extracellular conditions The appearance of proteins transmitting novel functional properties to cells can be controlled at a transcriptional posttranscriptional translational or posttranslational level Extensive research over the past 15 years has shown that transcriptional regulation is used as the predominant strategy to control the production of new proteins in response to extracellular stimuli At the level of gene transcription the initiation of mRNA synthesis is used most frequently to govern gene expression The key elements controlling transcription initiation in eukaryotes are activator proteins transactivators that bind in a sequence specific manner to short DNA sequences in the 5' of genes The activator binding sites are elements of larger proximity control units called promoters and enhancers which bind many distinct proteins These may synergize or negatively cooperate with the activators The *de novo* binding of an activator to DNA or if already bound to DNA its functional activation is what ultimately turns on a high level expression of genes The activity of transactivators is controlled by signalling pathways and in some cases transactivators actively participate in signal transduction by moving from the cytoplasm into the nucleus In this first volume of Inducible Gene Expression leading scientists in the field review six eukaryotic transactivators that allow cells to respond to various extracellular stimuli by the expression of new proteins

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Ilan,1987 *Gene Expression and Regulation in Mammalian Cells - Transcription Toward the Establishment of Novel*

Therapeutics ,19?? **Gene Expression** ,1991 **Plant Genes, Genomes and Genetics** Erich Grotewold,Joseph

Chappell,Elizabeth A. Kellogg,2015-04-27 Plant Genes Genomes and Genetics provides a comprehensive treatment of all aspects of plant gene expression Unique in explaining the subject from a plant perspective it highlights the importance of key processes many first discovered in plants that impact how plants develop and interact with the environment This text covers topics ranging from plant genome structure and the key control points in how genes are expressed to the mechanisms by which proteins are generated and how their activities are controlled and altered by posttranslational modifications Written by a highly respected team of specialists in plant biology with extensive experience in teaching at undergraduate and graduate level this textbook will be invaluable for students and instructors alike Plant Genes Genomes and Genetics also

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Inducible Gene Expression, Volume 2 P.A. Baeuerle, 2012-06-14 Cells have evolved multiple strategies to adapt the composition and quality of their protein equipment to needs imposed by changing conditions within the organism Extracellular stimuli that inform cells about such needs are hormones cytokines and neurotransmitters which bind to specific cell surface receptors Inside the cell secondary signals are then produced which ultimately initiate the expression of proteins giving novel functional properties to the stimulated cells This process can be controlled at a transcriptional posttranscriptional translational or posttranslational level Extensive research over the past fifteen years has shown that transcriptional regulation is probably the most important strategy used to control the production of new proteins in response to hormonal signals At the level of gene transcription the initiation of mRNA synthesis is most frequently used to govern gene expression The key elements controlling transcription initiation in eukaryotes are activator proteins transactivators that bind in a sequence specific manner to short DNA sequences in the proximity of genes The activator binding sites are elements of larger control units called promoters and enhancers which bind many distinct proteins that may synergize or negatively cooperate with the activators The de novo binding of an activator to DNA or if already bound to DNA its functional activation is what ultimately turns on a high level expression of genes In this second volume of Inducible Gene Expression leading scientists in the field review eight eukaryotic transactivators that allow cells to respond to hormonal stimuli by the expression of new proteins

Maximizing Gene Expression William S. Reznikoff, Larry Gold, 1986

Molecular Mechanisms in the Control of Gene Expression Donald P. Nierlich, William J. Rutter, C. Fred Fox, 1977

Gene Expression During Cell Differentiation John Bertrand Gurdon, 1973

Gene Expression and Its Regulation F. Kenney, 2014-01-15

Tissue Specific Gene Expression Rainer Renkawitz, 1989

Regulation of Gene Expression Gary H. Perdew, Jack P. Vanden Heuvel, Jeffrey M. Peters, 2014-11-22 The use of molecular biology and biochemistry to study the regulation of gene expression has become a major feature of research in the biological sciences Many excellent books and reviews exist that examine the experimental methodology employed in specific areas of molecular biology and regulation of gene expression However we have noticed a lack of books especially textbooks that provide an overview of the rationale and general experimental approaches used to examine chemically or disease mediated alterations in gene expression in mammalian systems For example it has been difficult to find appropriate texts that examine specific experimental goals such

as proving that an increased level of mRNA for a given gene is attributable to an increase in transcription rates Regulation of Gene Expression Molecular Mechanisms is intended to serve as either a textbook for graduate students or as a basic reference for laboratory personnel Indeed we are using this book to teach a graduate level class at The Pennsylvania State University For more details about this class please visit <http://moltox.cas.psu.edu> and select Courses The goal for our work is to provide an overview of the various methods and approaches to characterize possible mechanisms of gene regulation Further we have attempted to provide a framework for students to develop an understanding of how to determine the various mechanisms that lead to altered activity of a specific protein within a cell

Gene Expression : Protein Synthesis and Control, Rna Synthesis and Control, Chromatin Structure and Function : Symposium A2 [of The] 11th Meeting [of The] Federation of European Biochemical Societies, Copenhagen, 1977 Federation of european biochemical societies. meeting, 11th (copenhagen, 1977. f),1978

Long-range Control of Gene Expression Aghajan,Cavallaro,2008 Not Available

Gene Transfer and Expression in Mammalian Cells S.C. Makrides,2003-10-24 This volume provides a broad state of the art coverage of diverse technical topics in gene expression in mammalian cells including the development of vectors for production of proteins in cultured cells in transgenic animals vaccination and gene therapy progress in methods for the transfer of genes into mammalian cells and the optimization and monitoring of gene expression advances in our understanding and manipulation of cellular biochemical pathways that have a quantitative and qualitative impact on mammalian gene expression and the large scale production and purification of proteins from cultured cells

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