# Bhlh Transcription Factors In Development And Disease

**#Bhlh transcription factors #basic helix-loop-helix proteins #developmental gene regulation #disease mechanisms #transcription factor function**

Explore the critical functions of Bhlh transcription factors, essential proteins that orchestrate gene expression throughout vital biological processes. This topic delves into their pivotal roles in shaping organismal development, from cell differentiation to organ formation, and also investigates their complex involvement in the etiology and progression of various diseases, including cancer and neurological disorders. Understanding these basic helix-loop-helix proteins offers key insights into both fundamental biology and potential therapeutic strategies.



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Transcription factors | general transcription factors | transcription factor networks | Molbio - Transcription factors | general transcription factors | transcription factor networks | Molbio by Animated biology With arpan 29,592 views 1 year ago 10 minutes, 15 seconds - this video is about **Transcription factors**, | general **transcription factors**, | **transcription factor**, networks | Molbio For Notes, flashcards, ...

Regulation of Gene Expression: Operons, Epigenetics, and Transcription Factors - Regulation of Gene Expression: Operons, Epigenetics, and Transcription Factors by Professor Dave Explains 845,434 views 6 years ago 13 minutes, 7 seconds - We learned about gene expression in biochemistry, which is comprised of **transcription**, and translation, and referred to as the ...

post-transcriptional modification
the operon is normally on
the repressor blocks access to the promoter
the repressor is produced in an inactive state
tryptophan activates the repressor
repressor activation is concentration-dependent
allolactose is able to deactivate the repressor
genes bound to histones can't be expressed

Gene Regulation and the Order of the Operon - Gene Regulation and the Order of the Operon by Amoeba Sisters 2,451,302 views 8 years ago 6 minutes, 16 seconds - *Further Reading* As our pinned comment mentions, we cover basics with the goal of inspiring curiosity for more! There are so ...

Analysis of Myc-type BHLH transcription factors... - Katia Aviña-Padilla - Poster - ISCB-LA 2020 - Analysis of Myc-type BHLH transcription factors... - Katia Aviña-Padilla - Poster - ISCB-LA 2020 by ISCB 81 views 3 years ago 2 minutes, 54 seconds - Analysis of Myc-type **BHLH transcription**

**factors**, role in the reproductive **development**,-hormone signaling network reveals ...
What are Transcription Factors? - What are Transcription Factors? by The Explorer's Guide to Biology 15,730 views 2 years ago 2 minutes, 19 seconds - explorebiology.org/bio-dictionary Proteins that regulate gene expression by activating or repressing **transcription**, by RNA ...
Introduction
Transcription Factors
Outro
DNA Binding motifs overview - DNA Binding motifs overview by Animated biology With arpan 102,132 views 5 years ago 6 minutes, 58 seconds - This video describes several DNA binding motifs present in wide variety of **Transcription factors**, and also describes how they ...
How a transcription factor binds to the DNA?
HTH motifs binds to the major groove of DNA through a series of hydrogen bonds and various Van der Waals interactions with
Helix Loop Helix
Novel PRD-like homeodomain transcription factors and retrotransposon elements in early human... - Novel PRD-like homeodomain transcription factors and retrotransposon elements in early human... by ScienceVio 124 views 8 years ago 2 minutes, 13 seconds - Transcriptional, program that drives human preimplantation **development**, is largely unknown. Here, by using single-cell RNA ...
Epigenetics - Epigenetics by Amoeba Sisters 566,526 views 3 years ago 8 minutes, 42 seconds - You know all about how DNA bases can code for an organism's traits, but did you know there's more influencing phenotype than ...
Intro
Epigenetic Marks
Studies Involving Rodents & Epigenetics
Points about Inheritance and Factors Involving Inheritance
Why study Epigentics?
Epigentic Therapy
Gene regulation in Eukaryotes| Promoters | Transcription factors | Enhancers| Genetics for beginners - Gene regulation in Eukaryotes| Promoters | Transcription factors | Enhancers| Genetics for beginners by Biology Lectures 119,237 views 3 years ago 18 minutes - This is another video on series of lectures on Genetics for beginners. This video lecture explains 1. What is central dogma of ...
Regulated Transcription - Regulated Transcription by ndsuvirtualcell 352,346 views 13 years ago 3 minutes, 38 seconds - NDSU Virtual Cell Animations Project animation "Regulated **Transcription**,". For more information please see ...
What are the transcription factors and what do they do?
Domains, Motifs and Turns (Lecture 3) - Domains, Motifs and Turns (Lecture 3) by Thomas Mennella 71,520 views 7 years ago 13 minutes, 6 seconds
Transcription Factors - Robert Tjian (Berkeley/HHMI) - Transcription Factors - Robert Tjian (Berkeley/HHMI) by iBiology Techniques 13,419 views 10 years ago 4 minutes, 2 seconds - Introduction to the regulatory regions and the **transcription factors**, that bind to these regions.
Transcription factors in eukaryotes - Transcription factors in eukaryotes by Shomu's Biology 46,170 views 4 years ago 5 minutes, 43 seconds - Transcription factors, in eukaryotes - This lecture explains about different types of **transcription factors**, in eukaryotes and the role of ...
Discovery of transcription factors - Robert Tjian (Berkeley/HHMI) - Discovery of transcription factors - Robert Tjian (Berkeley/HHMI) by iBiology Techniques 4,735 views 10 years ago 10 minutes, 5 seconds - Description of the experiments which identified the first **Transcription Factors**,.
RNA Pol II requires a group of 85 associated factors and regulatory proteins to control transcription
Discovering the First Eukaryotic Gene Specific Transcription Factor
Isolating Sequence-Specific DNA-Binding Proteins
Biochemical purification and molecular cloning of Human Transcription Factor Spl, a Potent Activator
SP1 Binds to DNA via Three Zinc-Finger Domains
DNA Replication (Updated) - DNA Replication (Updated) by Amoeba Sisters 6,316,724 views 4 years ago 8 minutes, 12 seconds - Explore the steps of DNA replication, the enzymes involved, and the difference between the leading and lagging strand!
Intro
Why do you need DNA replication?
Where and when?
Introducing key player enzymes
Initial steps of DNA Replication

Explaining 5' to 3' and 3' to 5'
Showing leading and lagging strands in DNA replication
Can Your Environment Affect Your DNA? | Epigenetics Explained - Can Your Environment Affect Your DNA? | Epigenetics Explained by SciShow 2,561,215 views 12 years ago 9 minutes, 29 seconds - Did you know that your environment and lived experiences can actually affect your DNA? Welcome to the world of epigenetics!
Epigenetics
The Way Epigenetics Works
Histones
Epigenetics - Epigenetics by Bozeman Science 363,234 views 11 years ago 9 minutes, 21 seconds - Paul Andersen explains the concepts of genetics. He starts with a brief discussion of the nature vs. nurture debate and shows how ...
Introduction
What is epigenetics
How epigenetics works
DNA methylation
Histone acetylation
Micro RNA
Transcription and mRNA processing | Biomolecules | MCAT | Khan Academy - Transcription and mRNA processing | Biomolecules | MCAT | Khan Academy by Khan Academy 1,588,499 views 7 years ago 10 minutes, 24 seconds - Introduction to **transcription**, including the role of RNA polymerase, promoters, terminators, introns and exons. Watch the next ...
Intro
RNA polymerase
Template strand
RNA polymerase complex
mRNA processing
Eukaryotic Gene Regulation part 1 - Eukaryotic Gene Regulation part 1 by HeyNowScience 149,369 views 5 years ago 12 minutes, 56 seconds - If you are a teacher or student who is interested in a notes handout/worksheet that pairs with this video, check it out here: ...
Intro
What regulates gene expression
Chromatin
Heterochromatin
Histone Acetylation
DNA Methylation
TRANSCRIPTIONAL FACTORS: Gene regulation and the role of oestrogen explained. - TRANSCRIPTIONAL FACTORS: Gene regulation and the role of oestrogen explained. by Miss Estruch 51,460 views 3 years ago 6 minutes, 49 seconds - Learn what a **transcriptional factor**, is and how they can control whether transcription can occur (switching on/off genes). Learn the ...
Introduction
What are transcriptional factors
Summary
Evolution of transcription factor families - Evolution of transcription factor families by Cell Press 5,709 views 14 years ago 5 minutes, 14 seconds - Expansion of **transcription factor**, families correlates with organism complexity. Dr. Marian Walhout and her colleagues have ...
Introduction to Motif Discovery and Transcription Factor Binding Site Analysis - Introduction to Motif Discovery and Transcription Factor Binding Site Analysis by Bioinformagician 6,534 views 6 months ago 51 minutes - In this comprehensive video, I cover basics of motifs, **transcription factors**,, regulatory regions (promoters, enhancers, silencers, ...
Intro
What are motifs?
What are Transcription Factors?
Structure of a gene and regulatory regions
Why is there a need for gene regulation?
Different ways to represent Motifs or Transcription Factor Binding Sites
When to perform a Transcription Factor Binding Site Analysis?
Tools available to perform motif analysis
Motif databases

Case study for demonstration using Homer
Fetch data from NCBI GEO
About Homer and notes on installation
Following Homer instructions to find motifs in genomic regions
Manipulate peak file to get it into the acceptable format
Run Homer script to find motifs
Looking at resulting files
Understanding Homer's de novo motif finding results
Understanding Homer's known motif (canonical) finding results
Find which peaks do a specific motif bind to?
Method 1 to find motif instances
Method 2 to find motif instances
Gene expression, transcription factors and epigenetics - A Level Biology - Gene expression, transcription factors and epigenetics - A Level Biology by Mr Exham Biology 13,627 views 3 years ago 12 minutes, 20 seconds - 7.2 Factors affecting gene expression i Know that **transcription factors**, are proteins that bind to DNA. ii Understand the role of ...
What questions will we aim to answer?
Introduction
Regulating gene expression?
Transcription factors
RNA Splicing
Epigenetics - DNA methylation
Epigenetics - Histone modification
Epigenetics - Non-coding RNA (ncRNA)
Cell Differentiation
Gene probes
TFE3 Is a bHLH-ZIP-type Transcription Factor that Regulates the Mammalian Golgi Stress Response - TFE3 Is a bHLH-ZIP-type Transcription Factor that Regulates the Mammalian Golgi Stress Response by ScienceVio 263 views 9 years ago 14 seconds - The Golgi stress response is a mechanism by which, under conditions of insufficient Golgi function (Golgi stress), the **transcription**, ...
Whole Genome rVISTA: Identification of Transcription Factors for Co-Regulated Genes - Whole Genome rVISTA: Identification of Transcription Factors for Co-Regulated Genes by The Qualcomm Institute 612 views 11 years ago 9 minutes, 32 seconds - Whole Genome rVISTA: Identification of **Transcription Factors**, for Co-Regulated Genes Matthew D. Muñoz, MS.
Intro
Data is Easy, Biology is Hard
Microarray Results Are Ambiguous
Factors Are Elusive
Binding Sites Are Ambiguous
Whole Genome IVISTA Pipeline
DASH The Background Changes the Story
DASH Visualizing Results with Other Data
Compare Results to Other Data
The Database Has Other Uses
Acknowledgments
TRANSCRIPTION FACTORS: HOMEODOMAINS IN THE HUMAN GENOME - TRANSCRIPTION FACTORS: HOMEODOMAINS IN THE HUMAN GENOME by Walter Jahn 1,053 views 11 years ago 3 minutes, 49 seconds - TRANSCRIPTION FACTORS,: HOMEODOMAINS IN THE HUMAN GENOME.
is expressed in the embryonic eye, olfactory system, hypothalamus, and pituitary glands
is important in the development of the vertebral column, sternum, and scapula.
is involved in the differentiation of the endocrine tissue of the pancreas.
is necessary in the thyroid for the development of the thyroxine-developing follicular cells. A fusion gene of PAX8/PPARG1 was involved in a carcinoma.
is expressed in the developing lens. Mutations in mice result in small eyes without lenses; mutations in humans result in cataracts and other ocular problems.
is the homolog of apterous in Drosophila. It is expressed in the developing and adult CNS and is also expressed in B and T cells. Mutations have been involved in leukemia.
The latest advances in studying gene expression regulation - The latest advances in studying gene

expression regulation by Twist Bioscience 1,019 views 2 years ago 40 minutes - The complex patterns of gene expression that enable multi-cellularity and cell differentiation during animal **development**, are ...
Introduction
DNA regulatory elements
enhancers
regulatory code
project description
results
motif dependencies
main results
enhancers and promoters
promoter specificity
stepsiq
differential regulation
human cells
summary
thank you
CANCER: TRANSCRIPTION FACTORS - CANCER: TRANSCRIPTION FACTORS by Walter Jahn 990 views 11 years ago 1 minute, 41 seconds - CANCER: **TRANSCRIPTION FACTORS**,.
TRANSCRIPTION FACTORS: HOX CLUSTERS: PROGRAMMING THE FLY BODY - TRANSCRIPTION FACTORS: HOX CLUSTERS: PROGRAMMING THE FLY BODY by Walter Jahn 3,484 views 11 years ago 2 minutes, 41 seconds - TRANSCRIPTION FACTORS,: HOX CLUSTERS: PROGRAMMING THE FLY BODY.
Mike Levine (UC Berkeley) Part 1: Transcriptional Precision: Enhancers - Mike Levine (UC Berkeley) Part 1: Transcriptional Precision: Enhancers by Science Communication Lab 36,246 views 10 years ago 9 minutes, 43 seconds - Levine discusses the important role of precisely regulating gene expression during animal **development**,. The Drosophila embryo ...
The first 2 hours of embryogenesis
Separate enhancers for different stripes
Additive Action of Multiple Enhancers
Search filters
Keyboard shortcuts
Playback
General
Subtitles and closed captions
Spherical videos