

microRNA cancer regulation advanced concepts bioinformatics and systems biology tools advances in experimental medicine and biology

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Explore the advanced concepts in microRNA cancer regulation, understanding their critical role in disease progression. This interdisciplinary field leverages cutting-edge bioinformatics and systems biology tools to analyze complex biological networks. Discover significant advances in experimental medicine and biology, offering new insights into therapeutic strategies and diagnostic approaches for cancer.

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What is microRNA (miRNA)? - What is microRNA (miRNA)? by Basic Biochem 81,802 views 4 years ago 3 minutes, 29 seconds - An introduction to the small noncoding RNA, **microRNA**, (**miRNA**,). **miRNA**, regulates translation of proteins through RNA ...

micro RNA | What is microRNA (miRNA)? | How miRNAs work? | How miRNAs are detected experimentally? - micro RNA | What is microRNA (miRNA)? | How miRNAs work? | How miRNAs are detected experimentally? by Animated biology With arpan 33,386 views 1 year ago 8 minutes, 16 seconds - This video talks about micro RNA | What is **microRNA**, (**miRNA**,)? | How do miRNAs work? | How miRNAs are detected ...

Introduction

How MicroRNAs work

Where does MicroRNA bind

How does MicroRNA regulate gene expression

MicroRNA in different cell types

RNA interference (RNAi) Animation || miRNA || siRNA || mRNA regulation - RNA interference

(RNAi) Animation || miRNA || siRNA || mRNA regulation by Rethink Biology 65,839 views 2 years ago 7 minutes, 31 seconds - biologyanimation #RNAinterference #siRNA #**miRNA**, This animation describes the history and discovery of RNAi along with a ...

Biogenesis of miRNAs and mode of action - Biogenesis of miRNAs and mode of action by QIAGEN 31,769 views 6 years ago 1 minute, 49 seconds - Understanding the pathway leading to the formation and function of **microRNA**,. Discover more at: ...

David Bartel (Whitehead Institute/MIT/HHMI) Part 1: MicroRNAs: Introduction to MicroRNAs - David

Bartel (Whitehead Institute/MIT/HHMI) Part 1: MicroRNAs: Introduction to MicroRNAs by Science Communication Lab 211,487 views 9 years ago 42 minutes - Lecture Overview: **MicroRNAs**, are ~22 nucleotide RNAs processed from RNA hairpin structures. **MicroRNAs**, are much too short to ...

Intro

Gene regulation makes cells different from each other

Small temporal RNAs

miRNA biogenesis in animals

miRNA families

Many miRNAs are conserved

In plants, targets have extensive complementarity

Conserved miRNA targets in plants

MicroRNA target recognition in animals

Many biological targets

An added layer of gene control

mRNA destabilization through deadenylation

MicroRNAs are needed for proper development

Gene Silencing by microRNAs - Gene Silencing by microRNAs by Katharina Petsche 1,216,649 views 8 years ago 4 minutes, 54 seconds - MicroRNAs are a class of small, non-coding RNA molecules that regulate gene expression by inactivating messengerRNAs (mRNA ...

GENE SILENCING

microRNA BIOGENESIS & FUNCTION

Music Mutations by Small Collin

Mentor Albert Bieder

Financial support

Essentials in bioinformatics and systems biology for oncologists - Essentials in bioinformatics and systems biology for oncologists by European Society for Medical Oncology (ESMO) 693 views 1 year ago 3 minutes, 30 seconds - Joris van de Haar defines the terms of **bioinformatics**, and **systems biology**, by providing basic notions to the oncologists.

V. Narry Kim (IBS and SNU) 1: microRNA Biogenesis and Regulation - V. Narry Kim (IBS and SNU) 1: microRNA Biogenesis and Regulation by Science Communication Lab 33,409 views 6 years ago 26 minutes - Part 1: **microRNA**, Biogenesis and **Regulation**,: Narry Kim takes us through the steps in **microRNA**, biogenesis and explains the ...

Intro

miRNAs are key regulators of development

miRNA pathway: overview

miRNA genes

Transcription by RNA polymerase II

pri-miRNA processing by Microprocessor

How does Microprocessor recognize pri-miRNAs?

Regulation of pri-miRNA processing

Nuclear export of pre-miRNA by Exportin 5

pre-miRNA processing by Dicer

Regulation of pre-miRNA processing

Formation of RISC

Regulation of RISC

Alternative biogenesis pathways

MicroRNA Targets in Cancer Research Using TaqMan® MicroRNA ABC Purification Kit - MicroRNA Targets in Cancer Research Using TaqMan® MicroRNA ABC Purification Kit by Thermo Fisher Scientific 2,509 views 10 years ago 4 minutes, 31 seconds - Learn more: <http://bit.ly/13Goizp> Dr. Leendert Looijenga at the Erasmus **Medical**, Center in the Netherlands focuses his research ...

Designing MicroRNA specific cDNA and PCR Primers (part 2-3)- Cell Block - Designing MicroRNA specific cDNA and PCR Primers (part 2-3)- Cell Block by Cell Biology Education Consortium (CBEC) 2,795 views 1 year ago 11 minutes, 28 seconds - www.cellbioed.com For more information on Cell Blocks and written protocols go to www.cellbioed.com. We are a network of ...

Introduction

What are MicroRNAs

Steps

How to read and normalize microarray data in R - RMA normalization | Bioinformatics 101 -

How to read and normalize microarray data in R - RMA normalization | Bioinformatics 101 by

Bioinformagician 21,931 views 2 years ago 16 minutes - This is a step-by-step tutorial to download microarray data from NCBI GEO using GEOquery package. In this video, I have ...

Intro

DNA Microarray

Affymetrix GeneChip and Terminologies

Workflow

What does the intensities on Affymetrix GeneChip Array mean?

Normalization methods

Fetching data: download .CEL files

Read .CEL files

RMA normalization

Retrieve normalized expression data

Map probe IDs to gene symbols

RNAi: Slicing, dicing and serving your cells - Alex Dainis - RNAi: Slicing, dicing and serving your cells - Alex Dainis by TED-Ed 355,144 views 10 years ago 4 minutes, 8 seconds - RNA, the genetic messenger, makes sure the DNA recipe gives your cells exactly what they ordered. But sometimes that means ...

Structure, Function and Types of RNA (mRNA, tRNA, rRNA, lncRNA, miRNA, siRNA, snoRNA, snRNA, piRNA) - Structure, Function and Types of RNA (mRNA, tRNA, rRNA, lncRNA, miRNA, siRNA, snoRNA, snRNA, piRNA) by Easy Peasy 93,851 views 3 years ago 28 minutes - This Video Explains The Structure, Function And Types of RNA That Are mRNA, tRNA, rRNA, lncRNA, **miRNA**, siRNA, snoRNA, ...

Introduction

Ribonucleic Acid

TYPES OF RNA

MESSANGER RNA

RIBOSOMAL RNA

TRANSFER RNA

LONG NON-CODING RNA

MICRO RNA

SMALL NUCLEOLAR RNA

TWO CLASSES OF SNORNA

SMALL INTERFERING RNA

MIRNA/SIRNA

SMALL NUCLEAR RNA

TWO CLASSES OF SNRNA

SPLICEOSOME

PIRNA

SILENCE TRANSPOSABLE ELEMENTS

MicroRNA biogenesis, functions and role in diseases : Molecular Microbiology Tutorials - MicroRNA biogenesis, functions and role in diseases : Molecular Microbiology Tutorials by Q world Medical Education 21,439 views 5 years ago 18 minutes - MicroRNA, biogenesis, functions and role in diseases : Molecular Microbiology Tutorials To join our channel click on this link: ...

Functions of miRNA

RISC/miRNP/ miRISC

Negative regulation of a target mRNA by miRNA

9 mechanisms of miRNA action

Other actions of miRNA

miRNA vs SIRNA

miRNA and Cancer : Oncomirs

HCC, HL, CX, Breast Cancers

DNA repair defects

miRNA and Inherited diseases

Heart diseases

miRNA and nervous system disorders

miRNA and alcoholism

miRNA and obesity, diabetes, aging

RNAi - RNA interference - RNAi - RNA interference by Henrik's Lab 127,647 views 5 years ago 2 minutes, 56 seconds - RNAi - RNA interference and gene knock down Sources: Fire, A., Xu, S.,

Montgomery, M. K., Kostas, S. A., Driver, S. E., & Mello, ...

Introduction

Types of interference

Mechanism of interference

Research

ncRNAs - all types of non-coding RNA (lncRNA, tRNA, rRNA, snRNA, snoRNA, siRNA, miRNA, piRNA) - ncRNAs - all types of non-coding RNA (lncRNA, tRNA, rRNA, snRNA, snoRNA, siRNA, miRNA, piRNA) by Henrik's Lab 59,638 views 2 years ago 5 minutes, 43 seconds - Hey Friends, non-coding RNAs, appear to be the little sister of the messenger RNA. But these ncRNAs possess a multitude of ...

Introduction

Large parts of genome are non-coding

All types of non-coding RNA (ncRNA)

Outro

Regulatory RNA's: miRNA, siRNA, snRNA, lncRNA - Regulatory RNA's: miRNA, siRNA, snRNA, lncRNA by Biology Professor 67,410 views 6 years ago 15 minutes - Biology, Professor (Twitter: @DrWhitneyHolden) teaches about major types of **regulatory**, RNAs, including a review of coding vs.

Coding Rna

Types of Non-Coding Rna

Regulatory Non-Coding Rna

Micro Rna

Small Interfering Rna

Small Nuclear Rna

Long Non-Coding Rna

Non-coding RNA (ncRNA) | Biomolecules | MCAT | Khan Academy - Non-coding RNA (ncRNA) | Biomolecules | MCAT | Khan Academy by khanacademymedicine 125,040 views 10 years ago 4 minutes, 40 seconds - Created by Tracy Kim Kovach. Watch the next lesson: ...

Intro

MicroRNAs

Ribosomal RNAs

SnoRNA

SnRNA

Crispr Cas9 Genome Editing System - Crispr Cas9 Genome Editing System by Shomu's Biology 289,516 views 8 years ago 12 minutes, 55 seconds - Crispr Cas9 **system**, mechanism explained - This lecture explains about the Crispr Cas9 Genome Editing **System**, in details ...

Design of microRNA therapeutics - Design of microRNA therapeutics by Oligonucleotide Therapeutics Society 3,775 views 4 years ago 1 hour - Soeul have also been developed very high affinity after MERS so axle is a receptor tyrosine kinase that overexpressed on **cancer**, ...

microRNAs (miRNAs): Detection Strategies and Challenges - microRNAs (miRNAs): Detection Strategies and Challenges by Bio-Resource 8,839 views 3 years ago 9 minutes, 1 second - This video explains about **microRNAs**, (miRNAs): Detection Strategies and Challenges. **MicroRNAs**, (miRNAs) are a class of ...

microRNAs, a bit different biomarkers – From discovery to Dx application | BioVendor #16 - microRNAs, a bit different biomarkers – From discovery to Dx application | BioVendor #16 by BioVendor Group 13,911 views 4 years ago 13 minutes, 29 seconds - Find more at <https://www.biovendor.com/-mirna>, One of the BioVendor **miRNA**, experts, Tereza Mrackova speaks about the ...

What is encoded in DNA?

Revolution in molecular biology

Basic facts about miRNAS

microRNA BIOGENESIS & FUNCTION

messenger RNA

Wide range of applications

Early birds of clinical diagnostics

Active development

microRNA challenges

miRNAs in CANCER - miRNAs in CANCER by Walter Jahn 7,320 views 4 years ago 2 minutes, 50 seconds - Cancer, is a multifactorial treat involving many protein encoding genes for example there are tumor suppressor genes like p53 ...

The dual role of microRNA-20b in cancers: friend or foe? - The dual role of microRNA-20b in cancers: friend or foe? by Research Square 218 views 1 year ago 1 minute, 48 seconds - Olhan et al. "The dual role of **microRNA**, (miR)-20b in **cancers**,: friend or foe?" Cell Communication and Signaling (2023) Read the ...

MicroRNAs in the Development and Treatment of Cancer | Memorial Sloan Kettering - MicroRNAs in the Development and Treatment of Cancer | Memorial Sloan Kettering by Memorial Sloan Kettering Cancer Center 32,812 views 12 years ago 35 minutes - Cancer biologist, Andre Ventura explains how his lab uses genetically engineered mouse models to understand how **cancer**, ...

Intro

Biology of Cancer

Treatment of Cancer

Reactivation of P53

MicroRNAs

MicroRNA Mere19

Knockout Mouse Model

Questions

Thank you

Changes in cancer cells

Drug design for microRNAs

Cancer and stem cells

Using other species

Oncogenes

RNA Delivery

MicroRNA Studies - Anna M. Krichevsky - MicroRNA Studies - Anna M. Krichevsky by Serious Science 4,534 views 10 years ago 12 minutes, 39 seconds - Source - <http://serious-science.org/micro-rna-studies-68> How can one molecule perform different functions depending on the ...

The role of microRNAs in Tumor Progression - The role of microRNAs in Tumor Progression by Chemistry of Life Processes Institute 1,088 views 7 years ago 43 minutes - Marcus Peter, PhD.

Pitfalls and problems of miRNA expression analysis - Pitfalls and problems of miRNA expression analysis by Oligonucleotide Therapeutics Society 933 views 5 years ago 43 minutes - microRNAs, are intensively studied as **tools**, for personalized **medicine**, because they encompass many ideal characteristics of ...

Source preparation: tissues

Source preparation: serum vs plasma

Sample Processing

RNA extraction

miR recovery from plasma

Detection techniques: qPCR

Detection techniques: NGS

Normalization for relative quantification

Conclusions and future perspectives

MicroRNAs in Inflammation and Cancer - MicroRNAs in Inflammation and Cancer by Yale University 10,694 views 12 years ago 41 minutes - David Baltimore, PhD, delivers a talk on **MicroRNAs**, in Inflammation and **Cancer**,, one of a series of lectures from The Yale School ...

Why Did MicroRNAs Evolve?

The Role of Mir-146

Effect of LPS on miR-146a Knockout Animals

Deletion of NF- κ B p50 Greatly Reduces the Myeloid Hyperplasia in MiR-146a KO Mice

LPS induces miR-155 in the bone marrow prior to GM expansion

MicroRNA-155 gain of function in the bone marrow compartment

MicroRNA-155 gain-of-function in the bone marrow compartment

Enforced expression of miR-155 causes a myeloproliferative disorder in the bone marrow

Specific knockdown of Ship1 or expression of miR-155 cause similar MPDs in vivo

Role of miR-155 in Immunity

High expression levels of miR-125b initially triggers a myeloproliferative disease

miR-125b Overproduction Leads to Myeloid Cancer

Conclusion

Webinar - Recent Work & Current Methods in Immunology microRNA Research - Webinar - Recent Work & Current Methods in Immunology microRNA Research by LC Sciences 1,030 views 10 years

ago 1 hour, 2 minutes - MicroRNAs, have proven to be an extremely important part of the gene expression **regulation**, mechanism. While the role of ...

Intro

MicroRNAs

Mechanism of Regulation

Milestones

Technology

MicroRNA Processing

MicroRNA Publications

MicroRNA in Immunology

MicroRNA in Drug Discovery

Nature Review Paper

MicroRNA Identification

Experimental Methods

Sample Types

Methods

Data Flow

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Commitment, Cell Identity and Cell Growth". RUNX Proteins in Development and Cancer. Advances in Experimental Medicine and Biology. Vol. 962. pp. 95–102.... 173 KB (20,061 words) - 00:34, 13 February 2024

recombinant proteins; microRNA, a synthetic, self-replicating polycistronic RNA and low-molecular weight biologically active substances. In 1895 Thomas Morgan... 217 KB (24,998 words) - 23:44, 7 March 2024