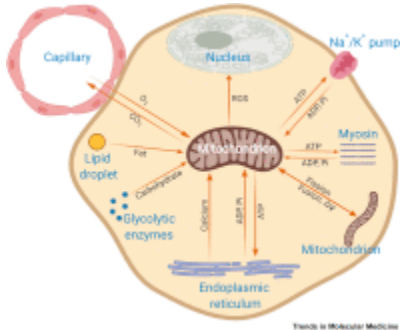


Trends in Molecular Medicine

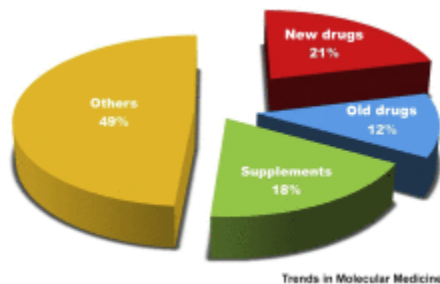


Special Issue: Mitochondria - From Diagnosis to Treatment

[Visualizing Mitochondrial Form and Function within the Cell](#)

First published: November 06, 2019

The specific cellular role of mitochondria is influenced by the surrounding environment because effective mitochondrial function requires the delivery of inputs (e.g., oxygen) and export of products (e.g., signaling molecules) to and from other cellular components, respectively. Recent technological developments in mitochondrial imaging have led to a more precise and comprehensive understanding of the spatial relationships governing the function of this complex organelle, opening a new era of mitochondrial research. [Full-Text HTML](#) [PDF](#)



Special Issue: Mitochondria - From Diagnosis to Treatment

[Drug Development for the Therapy of Mitochondrial Diseases](#)

First published: November 11, 2019

Mitochondrial diseases are a heterogeneous group of inherited or acquired devastating disorders that affect the energy metabolism of the body. Many strategies have been investigated, but currently there is no FDA-approved drug that can alleviate disease symptoms or slow disease progression. This review analyzes to what extent growing knowledge over the past two decades about the etiology and pathogenesis of mitochondrial diseases is reflected in the design and development of new experimental drugs for the therapy of these disorders. [Full-Text HTML](#) [PDF](#)

[Mitochondria – A Powerful Therapeutic Target](#)

First published: November 14, 2019

From basic research to the clinic, our understanding of individual organelles' contribution to their host organism in different pathological states is evolving. In particular, mitochondria are progressively ascribed key functions beyond their role of energy supply and are being viewed as organelles critically involved in a wide variety of diseases. A set of exciting questions thus emerges: might we arrive at a point where we can predict – to a certain extent – the outcome of certain diseases, or the response to a therapeutic treatment, if we hold a better understanding of specific (patho-)physiological states of mitochondria? Can we gain insights into the reciprocal interplay between mitochondria and the pathological mechanisms during diseases? How do mitochondrial defects contribute to specific diseases and how does the organism

fight back (or vice versa)? Furthermore, with the advent of new concepts and methodologies, which technological tools and advances will enable us to address these queries? [Full-Text HTML PDF](#)

[CRISPR–Cas in its prime](#)

CRISPR–Cas9-based prime editing supports the correction of a wide range of mutations, including transversions and insertions and deletions.

Nature Microbiology - Table of Contents alert, Volume 4, December 2019

Article | 26 August 2019

[Disruption of transcription–translation coordination in Escherichia coli leads to premature transcriptional termination](#)

Manlu Zhu, Matteo Mori, Terence Hwa & Xiongfeng Dai

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Trends in Plant Science: Alert 25 November

[Similar and Yet Different: Oxygen Sensing in Animals and Plants](#)

Francesco Licausi, Beatrice Giuntoli, Pierdomenico Perata

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[Natural genetic variation in photosynthesis: an untapped resource to increase crop yield potential?](#)

Michele Faralli, Tracy Lawson

The MS focuses on natural genetic variation in photosynthesis and other physiological processes as possible targets for exploitation for yield improvements.

Physiologia Plantarum

[Regulation of physiological aspects in plants by hydrogen sulfide and nitric oxide under challenging environment](#)

Saikat Paul, Aryadeep Roychoudhury

Version of Record online: 10 November 2019

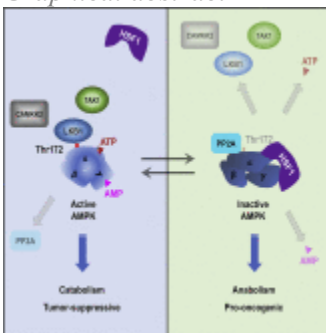
Molecular cell

[Heat Shock Factor 1 Is a Direct Antagonist of AMP-Activated Protein Kinase](#)

Pages 546-561.e8

Kuo-Hui Su, Siyuan Dai, Zijian Tang, Meng Xu, Chengkai Dai

Graphical abstract



[Spatiotemporal Organization of the *E. coli* Transcriptome: Translation Independence and Engagement in Regulation](#)

Pages 574-589.e7

Shanmugapriya Kannaiah, Jonathan Livny, Orna Amster-Choder

Graphical abstract



Highlights

- RNAs in *E. coli* exhibit asymmetric distribution on a transcriptome-wide scale
- Subcellular organization of mRNAs and encoded proteins significantly correlate
- A considerable fraction of *E. coli* RNAs localize independent of translation
- Hfq-dependent enrichment of the poles in sRNAs intensifies upon stress