



genes



an Open Access Journal by MDPI

Carcinogenesis as an Evolutionary Process

Guest Editor:

Prof. Dr. Laszlo Patthy

Institute of Enzymology,
Research Centre for Natural
Sciences, Hungarian Academy of
Sciences, H-1117 Budapest,
Hungary

Deadline for manuscript
submissions:

closed (10 November 2022)

Message from the Guest Editor

In the first phase of carcinogenesis, a cell may acquire a mutation that permits it to proliferate abnormally. In the next phase, other mutations allow for the expansion of cell number and eventually metastasize in distant organs. Analyses of the mutation landscapes and evolutionary trajectories of various tumor tissues have identified a constrained set of driver genes as the key genes whose mutation is most likely to initiate carcinogenesis. And their mutations are subject to positive selection during tumor evolution. Several types of approaches exploit this principle for the identification of genes that drive carcinogenesis.

As a result of combined efforts, providing a catalogue of driver mutations that could give rise to cancer has been achieved. However, a rather large fraction of cancer driver genes remain to be identified.

Another outstanding problem concerns the existence of tumor essential genes.

This Special Issue aims to focus on the toolkit of cancer driver genes and tumor essential genes. The significance of this question is that novel driver genes and tumor essential genes may prove to be valuable targets for cancer therapy.



mdpi.com/si/119025

Special Issue



genes



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Selvarangan Ponnazhagan

Department of Pathology, The
University of Alabama at
Birmingham, 1825 University
Blvd, SHEL 814, Birmingham, AL
35294-2182, USA

Message from the Editor-in-Chief

Genes are central to our understanding of biology, and modern advances such as genomics and genome editing have maintained genetics as a vibrant, diverse and fastmoving field. There is a need for good quality, open access journals in this area, and the *Genes* team aims to provide expert manuscript handling, serious peer review, and rapid publication across the whole discipline of genetics. Starting in 2010, the journal is now well established and recognised.

Why not consider *Genes* for your next genetics paper?

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), PubMed, MEDLINE, PMC, Embase, PubAg, and other databases.

Journal Rank: JCR - Q2 (*Genetics & Heredity*) / CiteScore - Q2 (*Genetics*)

Contact Us

Genes Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/genes
genes@mdpi.com
[X@Genes_MDPI](https://twitter.com/Genes_MDPI)