



Dr. Noam Shomron, Ph.D.

Department of Cell and
Developmental Biology
Sackler Faculty of Medicine



Genomics and Gene Regulation by Small RNAs

Positions

Senior Lecturer, Sackler Faculty of Medicine

Director, Functional Genomics Laboratory

Academic Director, BioAbroad

Editor-in-Chief, *Genetics Research*

Research

Our laboratory focuses on the analysis of regulation of gene expression aimed at understanding human disease. Combining high-throughput methods and bioinformatics, one aspect of our team's research explores microRNA regulation in order to reach a global, systems perspective of the mechanistic roles microRNAs play during disease development. Among our projects:

- Identification of a microRNA molecule that controls several oncogenes. Their discovery is paving the way for a potentially revolutionary drug for cancer treatment.
- Revealing the influence of microRNAs on pharmacogenomics and personalized medicine, thus leading to tailored drugs for cancer treatment.
- Exposing pathogens in human tissues based on deep sequencing of small RNA molecules followed by subtraction and assembly of the various genomes.

Publications

Pérez R, Calleros L, Marandino A, Sarute N, Iraola G, Grecco S, Blanc H, Vignuzzi M, Isakov O, **Shomron N**, Carrau L, Hernández M, Francia L, Sosa K, Tomás G, Panzera Y. Phylogenetic and genome-wide deep-sequencing analyses of canine parvovirus reveal co-infection with field variants and emergence of a recent recombinant strain. *PLoS One*. 2014; 9:e111779.

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Reviews

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Grants

2011-2015 I-CORE Program of the Planning and Budgeting Committee, The Israel Science Foundation (grant number 41/11)

2013-2016 Israel Cancer Research Fund (ICRF), Research Career Development Award (RCDA)

2014-2015 Earlier.org—Friends for an Earlier Breast Cancer Test

2014-2015 Israeli Ministry of Defence, office of Assistant Minister of Defence for Chemical, Biological, Radiological and Nuclear (CBRN) Defence

2014-2016 Saban Family Foundation—Melanoma Research Alliance

2014-2016 Foundation Fighting Blindness

2014-2016 Israel Cancer Research Fund (ICRF), Acceleration Grant

2014-2016 Binational Science Foundation (BSF)