

Two distinguishable gene groups detected: One 'normal' and one problematic

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Researchers at the Hebrew University of Jerusalem and other institutions have identified two distinguishable groups of genes: those that produce very abundant biochemical products in the cell and function properly in the majority of biological processes, and a flexible subset that might have abnormal function in a disease.

They demonstrated that these two groups can be found among various organisms and cell types, including [stem cells](#) and [cancer cells](#).

One set of genes is a robust network that conducts the basic functions of all cells, such as producing energy and biochemical building blocks. This group represents the "hard core" of different organisms.

The biochemical products produced by the other group of genes are less abundant in organisms, and their amount might vary significantly between different types of normal and [diseased cells](#) and even between different cancer cells derived from patients with the same type of cancer.

This dramatic variation between patients with the same disease has clear implications for personalized medicine. It implies that detailed analysis of each patient will be required in order to determine the exact type of patient-oriented therapy needed.

The work on defining the two gene sets was described in a recent article in the [Proceedings of the National Academy of Sciences](#).

Provided by Hebrew University of Jerusalem

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