

# Hereditary disease genes found throughout the human body

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A new study published in *PLOS Computational Biology* shows that genes associated with hereditary diseases occur throughout the human body.

The study, by Esti Yeger-Lotem et al., used network biology to model the interactions between proteins associated with diseases such as Parkinson's in different tissues. Using these networks, they show that proteins carrying the disease are found throughout the body.

In tissues vulnerable to [hereditary diseases](#), the networked proteins had unique interactions relevant for the mechanism of the disease. Disease causing genes tend to be more highly expressed. The authors demonstrated through several examples that tissue-specific protein interaction can highlight disease mechanisms, and thus, owing to their small number, provide a powerful filter for interrogating the origins of disease.

These results offer a powerful filter that can enhance the search for new therapeutic targets for many hereditary diseases.

**More information:** Barshir R, Shwartz O, Smoly IY, Yeger-Lotem E (2014) Comparative Analysis of Human Tissue Interactomes Reveals Factors Leading to Tissue-Specific Manifestation of Hereditary Diseases. *PLoS Comput Biol* 10(6): e1003632. [DOI: 10.1371/journal.pcbi.1003632](https://doi.org/10.1371/journal.pcbi.1003632)

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