

## Could natural genetic transfers from bacteria to humans contribute to cancer?

People have long been intrigued by the prospect of foreign DNA within our own genomes. Human genomes harbor evidence of beneficial [lateral gene transfers (LGT)] from bacteria in the recent past, and there is evidence that transfers may occur regularly between resident bacteria and somatic cells of the body. How commonly bacteria-animal LGT occurs is unclear, as are the mechanisms of these transfers. But if LGTs induce harmful mutations, they may be an unrecognized cause of disease.

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A number of challenges face researchers hoping to assess the presence and impact of bacterial DNA integrations in the genomes of human cells. A thorough study of this sort is still expensive...[and c]ontamination also remains a barrier.

[W]e believe that LGTs are an important form of insertional mutagenesis...A bacterial DNA integration that occurs in a human cell and leads to the expression of a bacterial compound recognized by the human immune system has the potential to trigger autoimmune disease, for example. Further research...will likely reveal the phenomenon to be much more common and important than currently appreciated.

**The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Bacteria and Humans Have Been Swapping DNA for Millennia](#)**