FHF1: a new fibroblast growth factor involved in cell signaling

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Abstract

Fibroblast growth factors (FGFs) allow cells to receive signals from the outside world by binding to and activating FGF receptors (FGFRs). The resulting signaling cascades help regulate important processes such as proliferation, motility, metabolism, and death. Dysregulation of these signaling cascades can result in developmental disorders, metabolic diseases and cancer. Although much is known about how FGFs work, the function of the fibroblast homologous factor (FHF) subfamily of FGFs has been unclear. Researchers have now shown that FHF1 exhibits some similarities to other FGFs. They found that FHF1 binds all major FGFRs. Upon binding, FHF1 can activate FGFR1 and initiate receptor-dependent signaling cascades, protecting cells from death. However, unlike other FGFs, it is not capable of stimulating cell division. These results identify FHF1 as a new FGFR ligand that should be considered when studying diseases with overactive FGFRs.