

MAPK3

Mitogen activated protein kinase 3, also known as p44MAPK and ERK1, is an enzyme that in humans is encoded by the MAPK3 gene.

The convergence of multi-signals on the Erk1/2 signaling pathway indicated the vital role of Erk1/2 in the pathogenic processes of [craniosynostosis](#). Over the past years, researchers tried to interfere the processes of [suture fusion](#) via molecule mechanisms, especially FGFs and related signaling ^{[1\)](#) [2\)](#) [3\)](#)}

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Shukla V, Coumoul X, Wang RH. et al. RNA interference and inhibition of MEK-ERK signaling prevent abnormal skeletal phenotypes in a mouse model of craniosynostosis. *Nat Genet.* 2007;39:1145-50.

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Morita J, Nakamura M, Kobayashi Y. et al. Soluble form of [FGFR2](#) with S252W partially prevents craniosynostosis of the apert mouse model. *Dev Dynam.* 2014;243:560-7.

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Yin L, Du X, Li CL. et al. A Pro253Arg mutation in fibroblast growth factor receptor 2 (Fgfr2) causes skeleton malformation mimicking human Apert syndrome by affecting both chondrogenesis and osteogenesis. *Bone.* 2008;42:631-43.

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