EPHB3

Ephrin type-B receptor 3 is a protein that in humans is encoded by the EPHB3 gene.

Ephrin receptors and their ligands, the ephrins, mediate numerous developmental processes, particularly in the nervous system. Based on their structures and sequence relationships, ephrins are divided into the ephrin-A (EFNA) class, which are anchored to the membrane by a glycosylphosphatidylinositol linkage, and the ephrin-B (EFNB) class, which are transmembrane proteins. The Eph family of receptors are divided into 2 groups based on the similarity of their extracellular domain sequences and their affinities for binding ephrin-A and ephrin-B ligands. Ephrin receptors make up the largest subgroup of the receptor tyrosine kinase (RTK) family. The protein encoded by this gene is a receptor for ephrin-B family members.

Improved synaptic function in the absence of EphB3 results from attenuation in CCI injury-induced synaptic losses and reduced d-serine levels compared with WT injured mice. Together, these findings suggest that EphB3 signaling plays a deleterious role in synaptic stability and plasticity after TBI [1].

1)
Perez EJ, Cepero ML, Perez SU, Coyle JT, Sick TJ, Liebl DJ. EphB3 signaling propagates synaptic dysfunction in the traumatic injured brain. Neurobiol Dis. 2016 Oct;94:73-84. doi: 10.1016/j.nbd.2016.06.007. Epub 2016 Jun 16. PubMed PMID: 27317833.