

Semaphorin

Semaphorins are a class of secreted and membrane proteins that act as axonal growth cone guidance molecules. They primarily act as short-range inhibitory signals and signal through multimeric receptor complexes. They are usually cues to deflect axons from inappropriate regions, especially important in neural system development. The major class of proteins that act as their receptors are called plexins. The main receptors for semaphorins are plexins, which have established roles in regulating Rho-family GTPases. Recent work shows that plexins can also influence R-Ras, which, in turn, can regulate integrins. Such regulation is probably a common feature of semaphorin signalling and contributes substantially to our understanding of semaphorin biology.

Every semaphorin is characterised by the expression of a specific region of about 500 amino acids called the sema domain.

see [Sema3A](#).

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