Title:	Crosstalk between neurons and glia through G-protein coupled receptors: Insights from Caenorhabditis elegans
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Abstract:	The past decades have witnessed a dogmatic shift from glia as supporting cells in the nervous system to their active roles in neurocentric functions. Neurons and glia communicate and show bidirectional responses through tripartite synapses. Studies across species indicate that neurotransmitters released by neurons are perceived by glial receptors, which allow for gliotransmitter release. These gliotransmitters can result in activation of neurons via neuronal GPCR receptors. However, studies of these molecular interactions are in their infancy. Caenorhabditis elegans has a conserved neuron-glia architectural repertoire with molecular and functional resemblance to mammals. Further, glia in C. elegans can be manipulated through ablation and mutations allowing for deciphering of glial dependent processes in vivo at single glial resolutions. Here, we will review recent findings from vertebrate and invertebrate organisms with a focus on how C. elegans can be used to advance our understanding of neuron-glia interactions through GPCRs.
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