Glycosylphosphatidylinositol, or glycophosphatidylinositol, or GPI in short, is a glycolipid that can be attached to the C-terminus of a protein during posttranslational modification. Proteins containing a GPI anchor play key roles in a wide variety of biological processes.

It is composed of a phosphatidylinositol group linked through a carbohydrate-containing linker (glucosamine and mannose glycosidically bound to the inositol residue) and via an ethanolamine phosphate (EtNP) bridge to the C-terminal amino acid of a mature protein. The two fatty acids within the hydrophobic phosphatidyl-inositol group anchor the protein to the cell membrane.

Neuronal regeneration and axonal regrowth mechanisms in the injured mammalian central nervous system are largely unknown. As part of a major pathway for inhibiting Axon regeneration, activated neuronal glycosylphosphatidylinositol-anchored Nogo receptor (NgR) interacts with LINGO-1 and p75NTR to form a complex at the cell surface.