



## ArmaGen granted 3 U.S. patents on IgG-neurotrophin fusion proteins for targeted brain delivery

December 8, 2011

Three new patents on IgG-neurotrophin fusion proteins for targeted brain drug delivery across the human blood-brain barrier (BBB) have been issued or allowed by the U.S. Patent Office. The claims are broad and cover any immunoglobulin targeting any endogenous BBB receptor transporter, and 17 neurotrophins, including erythropoietin (EPO) and glial derived neurotrophic factor (GDNF). Over 100 claims have been allowed covering the compositions of IgG-neurotrophin fusion proteins, methods of use, treatment of neurological disease, expression plasmid DNA, and manufacturing. Neurotrophins cause neuroprotection of brain cells in multiple acute and chronic brain diseases, including stroke, brain trauma, Alzheimer's disease, and Parkinson's disease. In addition, certain neurotrophins may also prove to be efficacious new drugs for the treatment of depression and affective disorders. However, neurotrophin drug development is difficult, because neurotrophins are large molecule drugs that do not cross the BBB. ArmaGen's new patent portfolio describes the re-engineering of neurotrophins as brain penetrating IgG-neurotrophin fusion proteins. The IgG part of the fusion protein is a monoclonal antibody against an endogenous BBB receptor transporter, which acts as a molecular Trojan horse to ferry the fused neurotrophin across the BBB, and into brain.