Abstract

The membrane protein Nogo-A found in spinal cord and brain myelin and neurons strongly inhibits the growth and regeneration of nerve fibers in the adult CNS. Neutralization of Nogo-A by antibodies enhanced regeneration of injured nerve fibers in the rat and macaque monkey spinal cord and brain, as well as recovery of lost functions. Development and optimization of a human antibody against human Nogo-A required a close collaboration between our academic lab and pharma and biotech companies. For the clinical trial planning and the conduction of the Phase 1 and Phase 2 trials, collaboration with dedicated clinical colleagues in a multinational European clinical network was required. Anti-Nogo-A antibodies are currently in a placebo controlled, double-blind Phase 2 proof-of-concept trial in acute, tetraplegic spinal cord injured patients.


Why was the way so long from the bench to clinical trials for a regeneration enhancing anti-Nogo-A antibody therapy for spinal cord injury?