**SKOR1 inhibition as a therapeutic approach to prevent a-synuclein-induced degeneration in models of Parkinson’s disease.**

Parkinson’s disease (PD) is the world’s fastest growing neurological disorder. Aging is the biggest risk factor for PD, which affects 1% of people over the age of 60, which rises to 5% of people over the age of 85. PD is characterised by the degeneration of midbrain dopaminergic neurons from a region of the brain called the substantia nigra (SN). PD is also characterised by the presence of inclusions called Lewy bodies, inside these dopaminergic neurons that consist predominantly of a misfolded protein called α-synuclein which causes the loss of the dopaminergic neurons. Despite over fifty years of investigation, there is no disease-modifying treatment that stops the progressive loss of dopaminergic neurons. For this reason, there is an increasing focus on identifying how α-synuclein causes the degeneration of dopaminergic neurons in order to develop new ways of protecting the brain in PD. Our previous work has shown that α-synuclein increases the levels of a gene called Skor1. In this work we will examine whether blocking will prevent α-synuclein-induced degeneration of dopaminergic neurons in experimental models of PD. Moreover, we will examine what functions Skor1 plays in dopaminergic neurons to uncover new understanding on the factors that control the survival of midbrain dopaminergic neurons in the nervous system.