

P001 A functional analysis of Metabotropic glutamate receptor genes in the nematode *Caenorhabditis elegans*
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Glutamate is the principal neurotransmitter in mammals and many aspects of its signalling are conserved between *Caenorhabditis elegans* and mammals. Genetic investigations of ionotropic glutamate receptors (eg. *glr-1*, *nmr-1*), glutamate-gated chloride channels (eg. *avr-15*) and vesicular glutamate transporters (*eat-4*) have established an important role of glutamate transmission in *C.elegans*.

We are investigating the roles of metabotropic glutamate receptors (mGluRs) in regulating behaviour, using the nematode *C.elegans* as a model organism. Three mGluR-like genes [*mgl-1*, *mgl-2* and Y4C6A.2a (referred as *mgl-3*)] have been identified in *C. elegans*. We have obtained deletion mutants of each. The gene expression pattern of each is being studied using GFP tagging. We hypothesise that these *mgl* receptors regulate worm behaviour because glutamate transmission is known to be important for several behaviours. The functions of these genes are being studied by pharmacological and genetic methods using behavioural assays including foraging, growth rate, body bends, pharyngeal pumping, thrashing, nose touch, forward and backward movement. Results from the behavioural assays will be presented. These approaches should provide insights into the mechanism and functions of this important class of CNS receptors.