

## Abstract/Session Information for Program Number 428B

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A *mod-5* Suppression Screen for Genes Involved in Serotonergic Neurotransmission. **Megan A. Higginbotham**, Bob Horvitz. Biology, MIT, Cambridge, MA.

Wild-type animals that have been acutely food deprived slow their locomotory rate upon encountering bacteria more than do well-fed animals. This behavior, called the enhanced slowing response, is serotonin (5-HT) dependent. Animals mutant for the 5-HT reuptake transporter *mod-5* slow even more than wild-type animals. Additionally, *mod-5* animals are hypersensitive to exogenous 5-HT. To identify additional genes involved in 5-HT signaling and possibly the enhanced slowing response, we screened for suppressors of this 5-HT hypersensitivity.

We screened 46,200 haploid genomes using *Mos1* transposon mutagenesis (Bessereau et al. *Nature*, 413: 70-74, 2001). Four strong suppressors were identified. Two contain insertions in genes previously known to suppress *mod-5* for both the exogenous 5-HT hypersensitivity and the hyperenhanced slowing response. One of these suppressors is an allele of *mod-1*, which encodes a 5-HT-gated chloride channel, and the other is an allele of *goa-1*, a predicted alpha subunit of a heterotrimeric G-protein. Four transposon insertions have been identified on chromosome I in the strain carrying the third suppressor, *n4094*. Four transposon insertions have also been identified in the strain carrying the fourth suppressor, *n4095*. Experiments are underway to determine which of these insertions, if any, causes suppression of the 5-HT hypersensitivity of *mod-5*.

We are also working to define neural circuits through which both *mod-5* and suppressors of *mod-5* act to affect the hyperenhanced slowing response. Using antibodies raised against MOD-5 protein, we have identified several head neurons in which MOD-5 expression can be seen. Additionally, a translational *mod-1::rfp* reporter has been constructed (by Eric Miska), and we are currently identifying the cells in which it is expressed.

**Session Information****Session Title:** BEHAVIOR AND SENSORY TRANSDUCTION**Session Type:** POSTER, **Session Time:** Monday-Wednesday**Location:** ACKERMAN GRAND BALLROOM**Abstract Information****Poster Board Number:** 428B, **Presentation Time:** TUE, JULY 1, 2003 1:30-3:00PM**Title:** A MOD-5 SUPPRESSION SCREEN FOR GENES INVOLVED IN SEROTONERGIC NEUROTRANSMISSION.**Author:** HIGGINBOTHAM,MEGAN A. ; \* HORVITZ,BOB.**Keywords:** KW03:44 - BEHAVIOR/SENSORY TRANSDUCTION; NEUROBIOLOGY: NEURONAL CONTROL OF BEHAVIOR[Print](#) [Close window](#)