Supplemental Information for:

secCl is a cys-loop ion channel necessary for the chloride conductance that mediates hormone-induced fluid secretion in *Drosophila*.

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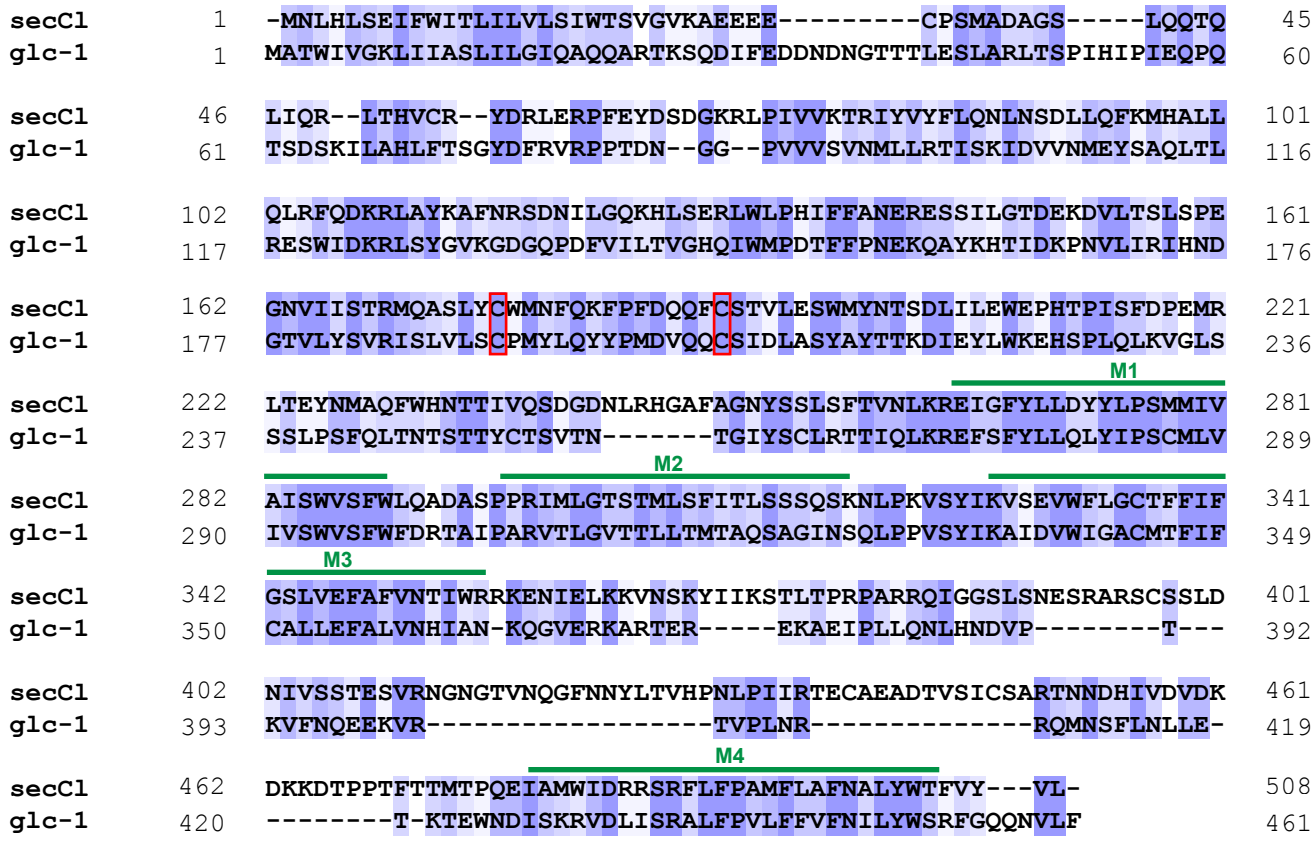
Running Title: a cys-loop channel mediates hormone-induced diuresis.



Supplemental Figure S1: ***secCl* encodes a protein that contains the features of a typical cys-loop pentameric ligand-gated ion channel (pLGIC) subunit.** Amino acid allignment of *secCl* with the *Caenorhabditis elegans* pLGIC subunit *glc-1*. The two cysteines that form the cys-loop are boxed in red. The alpha-helical transmembrane domains M1-M4 are marked with solid green lines. Shading indicates degree of conservation (darker is more conserved) as scored by BLOSUM26 substitution matrix (Henikoff, S. & Henikoff, J.G. Amino Acid Substitution Matrices from Protein Blocks. *Proc. Natl. Acad. Sci. U. S. A.* **89**, 10915–10919 (1992)). Sequences aligned using CLUSTAL W (Thompson, J.D., Higgins, D.G. & Gibson, T.J. CLUSTAL W: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, positions-specific gap penalties and weight matrix choice. *Nucleic Acids Res*, **22**,4673-4680 (1994).)

Supplemental Data S2

Primers for Amplification of *secCl* cDNA from mRNA:
5'GCGGGGACAAGTTTGTACAAAAAAGCAGGCTCGATATCATGAATCTGCATCTGAG
TGA3'
5'GGGGACCACTTTGTACAAGAAAGCTGGGTGAGCTCTAGATTACAAAACATAGACG
AGGT3'.

Primers for amplification of *secCl* genomic rescuing fragment:
5'CACCAATCGACGCAGGTAAATGGAC 3' and
5'AGGATCGAGGATAGACGCATGGTT3'.

Primers for amplification of *secCl* promoter for *secCl*-promoter::GFP fusion:
5'-CACCAATCGACGCAGGTAAATGGAC -3' and
5'-TCTTCCTCGGCTTTGACCCTA-3'

The primers used to introduce site specific mutations to remove extraneous start codons from the promoter:
5'-GCAGATTCCTCAGcTGGcTTGATTC-3' and 5'-TTGGATCACGCTGATCTTGGTC-3'
where lower case letters refer to the nucleotide bases that were mutated.

Primers for amplification of *secCl* intracellular loop for antibody production:
5'TAAGGCCTCTGTCGACCAGTTTGCCTTTGTCAACAC3'
5'CAGAATTCGCAAGCTTCTACGGCGTGTCCTTTTTATCCT-3'
Nucleotides 1-16 of both primers correspond to homologous portions of the pEcoli- Nterm 6xHN vector.