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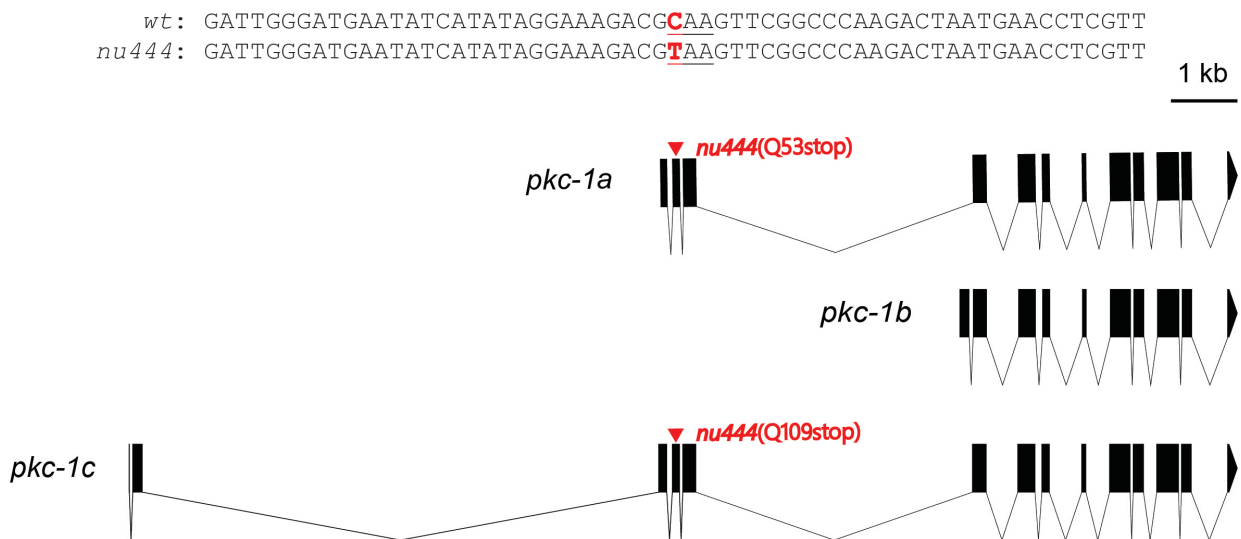
nu444 is a novel allele of *pkc-1* in *C. elegans*

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Fig.1 Gene structure of *pkc-1* and identity of *nu444* allele



Description

Here, we report *nu444* as a novel allele of the gene *pkc-1* that encodes the protein kinase C-1 in *C. elegans*. The *nu444* allele was originally isolated from a forward genetic screen for mutants that suppressed the “Hic” (Hypersensitivity to Inhibitors of Cholinesterase) phenotype of *dgk-1(nu62)* mutants¹, which had increased acetylcholine release at the neuromuscular junction. In this screen, several genes that are important for neuropeptide secretion were recovered, including *pkc-1(nu448)*¹ and *ric-7(nu447)*². Sanger sequencing of the exons and exon-intron junctions of the *pkc-1* locus revealed that *nu444* had a nonsense mutation (C to T, in the coding strand of *pkc-1*, with left flanking sequence: 5'- GATTGGGATGAATATCATATAGGAAAGACG -3' and right flanking sequence: 5'- AAGTTCGGCCCAAGACTAATGAACCTCGTT -3') in an early exon that is only present in *pkc-1a* and *pkc-1c* isoforms (Fig.1). Thus, *pkc-1(nu444)* allele is probably a null allele for both *pkc-1a* (Q53stop) and *pkc-1c* (Q109stop), but presumably does not affect *pkc-1b*.

References

- 1 Sieburth D, Madison JM, Kaplan JM. PKC-1 regulates secretion of neuropeptides. *Nat Neurosci.* 2007 Jan;10(1):49-57PubMed PMID: 17128266
- 2 Hao Y, Hu Z, Sieburth D, Kaplan JM. RIC-7 promotes neuropeptide secretion. *PLoS Genet.* 2012 Jan;8(1):e1002464. doi: 10.1371/journal.pgen.1002464PubMed PMID: 22275875

Reagents

KP1939 *pkc-1(nu444)* V; *dgk-1(nu62)* X
 OJ580 *pkc-1(nu444)* V

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