

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

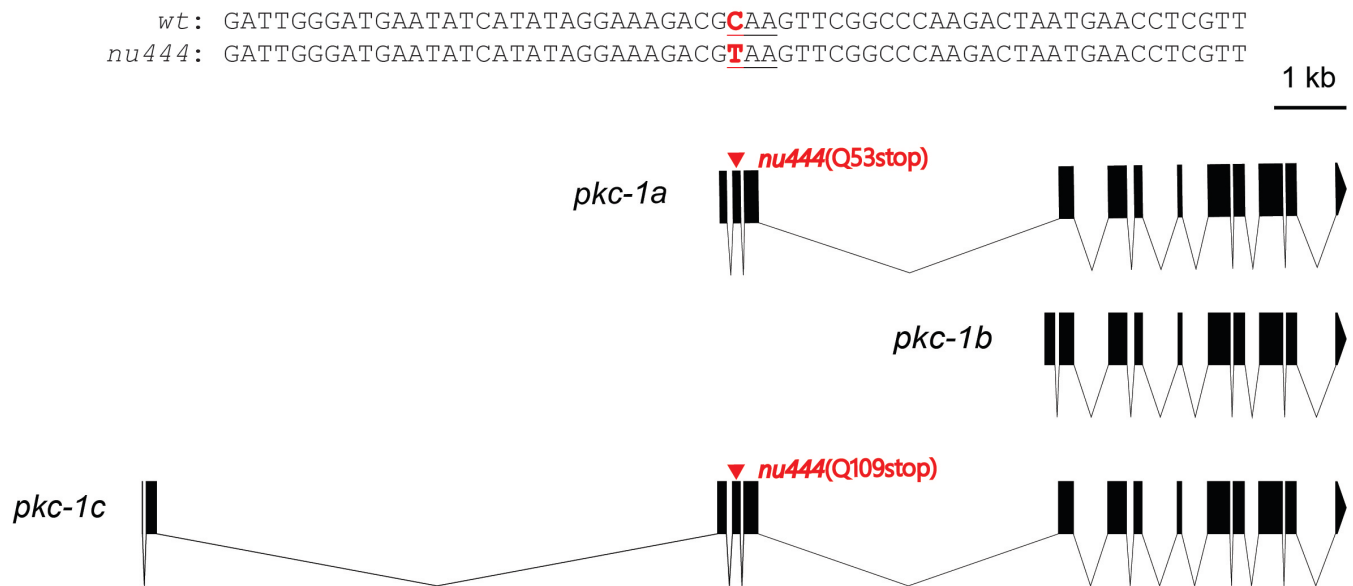
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Fig.1 Gene structure of *pkc-1* and identity of *nu444* allele



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)* mutants, which had increased acetylcholine release at the neuromuscular junction (Sieburth et al., 2007). In this screen, several genes that are important for neuropeptide secretion were recovered, including *pkc-1(nu448)* (Sieburth et al., 2007) and *ric-7(nu447)* (Hao et al., 2012). 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'-GATGAATATCATATAGGAAAAGACG-3' and right flanking sequence: 5'-AAGTTCGGCCCAAGACTAATGAACC-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*.

Reagents

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

OJ580 *pkc-1(nu444)* V

References

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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.1002464 | PMID: 22275875.

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