

Resource Summary Report

Generated by [NIF](#) on Aug 27, 2026

RB545

RRID:WB-STRAIN:WBStrain00031350

Type: Organism

Proper Citation

RRID:WB-STRAIN:WBStrain00031350

Organism Information

URL: <http://www.wormbase.org/db/get?name=WBStrain00031350>

Proper Citation: RRID:WB-STRAIN:WBStrain00031350

Description: Caenorhabditis elegans with name pek-1(ok275) X. from WB.

Species: Caenorhabditis elegans

Synonyms: pek-1(ok275) X.

Notes: F46C3.1. Homozygous. eukaryotic initiation factor 2 alpha kinase PEK. Outer Left Sequence: ctgagccatcgacaaactca. Outer Right Sequence: ccttggtaccattcaacgct. Inner Left Sequence: ctgagaaggcaacgctctct. Inner Right Sequence: atcaccgctactctggatgg. Inner primer WT PCR product: 2967.|"Made_by: OMRF Knockout Group"|"Mutagen:UV/TMP"|"Supplementary_genotype pek-1(ok275)"|"This strain was provided by the C. elegans Gene Knockout Project at the Oklahoma Medical Research Foundation, which was part of the International C. elegans Gene Knockout Consortium, which should be acknowledged in any publications resulting from its use."|"WBStrain mapped, WBPaper00060132 added based on AFP_Strain data."|"WBStrain provided so WBPaper00060933 paper added based on AFP_Strain data."|"WBStrain provided so WBPaper00061805 paper added based on AFP_Strain data."

Affected Gene: WBGene00003970(pek-1)

Genomic Alteration: WBGene00003970(pek-1)

Catalog Number: WB-STRAIN:WBStrain00031350

Database: WormBase (WB)

Database Abbreviation: WB

Availability: available

Source References: [PMID:32851977](#), [PMID:33495210](#), [PMID:33542359](#), [PMID:34407398](#), [PMID:37902464](#)

Alternate IDs: WB-STRAIN:RB545, CGC_RB545

Organism Name: RB545

Record Creation Time: 20230227T013615+0000

Record Last Update: 20260815T163135+0000

Ratings and Alerts

No rating or validation information has been found for RB545.

No alerts have been found for RB545.

Data and Source Information

Source: [Integrated Animals](#)

Source Database: WormBase (WB)

Usage and Citation Metrics

We found 18 mentions in open access literature.

Listed below are recent publications. The full list is available at [NIF](#).

Rao R, et al. (2025) Inhibition of the UFD-1-NPL-4 complex triggers an aberrant immune response in *Caenorhabditis elegans*. *bioRxiv* : the preprint server for biology.

Kniazeva M, et al. (2025) Translation elongation defects activate the *Caenorhabditis elegans* ZIP-2 bZIP transcription factor-mediated toxin defense. *Proceedings of the National Academy of Sciences of the United States of America*, 122(6), e2423578122.

Rao R, et al. (2025) Inhibition of the UFD-1-NPL-4 complex triggers an aberrant immune response in *Caenorhabditis elegans*. *eLife*, 13.

Xu J, et al. (2024) The unfolded protein response of the endoplasmic reticulum protects *Caenorhabditis elegans* against DNA damage caused by stalled replication forks. *G3* (Bethesda, Md.), 14(4).

Tataridas-Pallas N, et al. (2024) Mitochondrial clearance and increased HSF-1 activity are coupled to promote longevity in fasted *Caenorhabditis elegans*. *iScience*, 27(6), 109834.

Zhou L, et al. (2024) Temperature perception by ER UPR promotes preventive innate immunity and longevity. *Cell reports*, 43(12), 115071.

Chen C, et al. (2023) High-Dose Deltamethrin Induces Developmental Toxicity in *Caenorhabditis elegans* via IRE-1. *Molecules* (Basel, Switzerland), 28(17).

Li TY, et al. (2023) V-ATPase/TORC1-mediated ATFS-1 translation directs mitochondrial UPR activation in *C. elegans*. *The Journal of cell biology*, 222(1).

Mingjie Y, et al. (2023) The RIDD activity of *C. elegans* IRE1 modifies neuroendocrine signaling in anticipation of environment stress to ensure survival. *bioRxiv : the preprint server for biology*.

Wang S, et al. (2023) Epigallocatechin-3-Gallate Reduces Cd-Induced Developmental Toxicity of Bodysize in *Caenorhabditis elegans* via the PEK-1/eIF-2 α /ATF-4 Pathway. *Molecules* (Basel, Switzerland), 28(17).

Beaudoin-Chabot C, et al. (2022) The unfolded protein response reverses the effects of glucose on lifespan in chemically-sterilized *C. elegans*. *Nature communications*, 13(1), 5889.

Tang H, et al. (2021) Fatty acids impact sarcomere integrity through myristoylation and ER homeostasis. *Cell reports*, 36(7), 109539.

Burkewitz K, et al. (2020) Atf-6 Regulates Lifespan through ER-Mitochondrial Calcium Homeostasis. *Cell reports*, 32(10), 108125.

Dai LL, et al. (2015) mir-233 modulates the unfolded protein response in *C. elegans* during *Pseudomonas aeruginosa* infection. *PLoS pathogens*, 11(1), e1004606.

Yuan Y, et al. (2011) Dysregulated LRRK2 signaling in response to endoplasmic reticulum stress leads to dopaminergic neuron degeneration in *C. elegans*. *PloS one*, 6(8), e22354.

Darom A, et al. (2010) RNF-121 is an endoplasmic reticulum-membrane E3 ubiquitin ligase involved in the regulation of beta-integrin. *Molecular biology of the cell*, 21(11), 1788.

Bischof LJ, et al. (2008) Activation of the unfolded protein response is required for defenses against bacterial pore-forming toxin in vivo. *PLoS pathogens*, 4(10), e1000176.

Shen X, et al. (2005) Genetic interactions due to constitutive and inducible gene regulation mediated by the unfolded protein response in *C. elegans*. *PLoS genetics*, 1(3), e37.