

Resource Summary Report

Generated by [NIF](#) on Aug 22, 2026

ZG31

RRID:WB-STRAIN:WBStrain00040824

Type: Organism

Proper Citation

RRID:WB-STRAIN:WBStrain00040824

Organism Information

URL: <http://www.wormbase.org/db/get?name=WBStrain00040824>

Proper Citation: RRID:WB-STRAIN:WBStrain00040824

Description: Caenorhabditis elegans with name hif-1(ia4) V. from WB.

Species: Caenorhabditis elegans

Synonyms: hif-1(ia4) V.

Notes: Healthy and fertile in standard lab conditions, but unable to adapt to 1% oxygen. When hif-1(+) animals are incubated in 1% oxygen, >94% will complete embryogenesis and larval development. In contrast, hif-1(ia4) mutants exhibit 66% embryonic lethality and 9% larval lethality in 1% oxygen. The requirement of hif-1 is alleviated if the oxygen level is increased to 2%. The ia4 mutation is a 1231 bp deletion of the second, third, and fourth exons, which encode much of the helix-loop-helix and PAS domains. Analysis of ESTs suggests that there are at least 4 alternatively spliced hif-1 transcripts. The ia4 deletion introduces a frameshift and a premature stop in the three longest forms.|"Made_by: Jiang/Powell-Coffman"|"Reference WBPaper00059755 added based on published strain data identified by Textpresso literature search."|"Supplementary_genotype hif-1(ia4), RE666 ire-1(v33), xbp-1(tm2482)"

Affected Gene: WBGene00001851(hif-1)

Genomic Alteration: WBGene00001851(hif-1)

Catalog Number: WB-STRAIN:WBStrain00040824

Database: WormBase (WB)

Database Abbreviation: WB

Availability: available

Source References: [PMID:32482227](#), [PMID:36653384](#), [PMID:37902464](#), [PMID:38573858](#), [PMID:38986790](#)

Alternate IDs: WB-STRAIN:ZG31, CGC_ZG31

Organism Name: ZG31

Record Creation Time: 20230227T013727+0000

Record Last Update: 20260815T163426+0000

Ratings and Alerts

No rating or validation information has been found for ZG31.

No alerts have been found for ZG31.

Data and Source Information

Source: [Integrated Animals](#)

Source Database: WormBase (WB)

Usage and Citation Metrics

We found 8 mentions in open access literature.

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

Androwski RJ, et al. (2025) Analysis of categorical data from biological experiments with logistic regression and CMH tests. PloS one, 20(11), e0335143.

Das P, et al. (2025) Iron-deplete diet enhances Caenorhabditis elegans lifespan via oxidative stress response pathways. bioRxiv : the preprint server for biology.

Romanelli-Cedrez L, et al. (2024) Rhodoquinone-dependent electron transport chain is essential for Caenorhabditis elegans survival in hydrogen sulfide environments. The Journal of biological chemistry, 300(9), 107708.

Liu P, et al. (2024) UPRER-immunity axis acts as physiological food evaluation system that promotes aversion behavior in sensing low-quality food. eLife, 13.

Ravi , et al. (2023) Thiol reductive stress activates the hypoxia response pathway. The EMBO journal, 42(22), e114093.

Ganner A, et al. (2023) SCD5 Regulation by VHL Affects Cell Proliferation and Lipid Homeostasis in ccRCC. Cells, 12(6).

Pu L, et al. (2023) Hypoxia induces food leaving in C. elegans. microPublication biology, 2023.

Dang H, et al. (2023) On the benefits of the tryptophan metabolite 3-hydroxyanthranilic acid in *Caenorhabditis elegans* and mouse aging. *Nature communications*, 14(1), 8338.