SANTA CRUZ BIOTECHNOLOGY, INC.

# DAF-16 (cC-20): sc-9230

## BACKGROUND

Several proteins involved in regulating the aging process in *C. elegans* have been identified. DAF-2, DAF-16 and AGE-1 (also known as DAF-23) regulate lifespan via an insulin-signaling pathway. In specific, decreases in DAF-2 signaling induce metabolic and developmental changes, as in mammalian metabolic control by the insulin receptor. DAF-16 encodes a member of the hepatocyte nuclear factor 3 (HNF-3)/forkhead family of transcriptional regulators. In humans, HNF-3 activity is antagonized by insulin, causing the down-regulation of developmental genes, raising the possibility that aspects of the DAF-16 regulatory system have been conserved. The gene AGE-1 encodes a homologue of mammalian phosphatidylinositol-3-OH kinase (PI(3)K) catalytic subunits and is required for non-dauer development and normal senescence. CLK-1, a homolog of the yeast COQ7/CAT5 protein, is thought to exert its effects on longevity via the synthesis of ubiquinone, an essential component of electron transport.

## REFERENCES


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2. Morris, J.Z., Tissenbaum, H.A., and Ruvkun, G. 1996. A phosphatidylinositol-3-OH kinase family member regulating longevity and diapause in *Caenorhabditis elegans*. Nature 382: 536-539.
3. Ewbank, J.J., Barnes, T.M., Lakowski, B., Lussier, M., Bussey, H., and Hekimi, S. 1997. Structural and functional conservation of the *Caenorhabditis elegans* timing gene clk-1. Science 275: 980-983.
4. Kimura, K.D., Tissenbaum, H.A., Liu, Y., and Ruvkun, G. 1997. Daf-2, an insulin receptor-like gene that regulates longevity and diapause in *Caenorhabditis elegans*. Science 277: 942-946.
5. Lin, K., Dorman, J.B., Rodan, A., and Kenyon, C. 1997. Daf-16: An HNF-3/forkhead family member that can function to double the life-span of *Caenorhabditis elegans*. Science 278 : 1319-1322.
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7. Moeslein, F.M., Myers, M.P., and Landreth, G.E. 1999. The CLK family kinases, CLK1 and CLK2, phosphorylate and activate the tyrosine phosphatase, PTP-1B. J. Biol. Chem. 274: 26697-26704.


## SOURCE

DAF-16 (cC-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of DAF-16 of *Caenorhabditis elegans* origin.

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9230 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

DAF-16 (cC-20) is recommended for detection of DAF-16 of *Caenorhabditis elegans* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS


1. Li, J., Ebata, A., Dong, Y., Rizki, G., Iwata, T. and Lee, S.S. 2008. *Caenorhabditis elegans* HCF1 functions in longevity maintenance as a DAF-16 regulator. PLoS Biol. 6: e233.


## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.