

Publication

Application of RNAi technology and fluorescent protein markers to study membrane traffic in *Caenorhabditis elegans***JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 156783**Author(s)** Poteryaev, Dmitry; Spang, Anne**Author(s) at UniBasel** [Spang, Anne](#) ;**Year** 2008**Title** Application of RNAi technology and fluorescent protein markers to study membrane traffic in *Caenorhabditis elegans***Journal** Methods in Molecular Biology**Volume** 440**Pages / Article-Number** 331-47**Keywords** Animals; *Caenorhabditis elegans*/genetics/*metabolism; *Caenorhabditis elegans* Proteins/genetics/*metabolism; Cell Membrane/*metabolism; Down-Regulation; *Endocytosis/genetics; Endoplasmic Reticulum/metabolism; Genotype; Green Fluorescent Proteins/metabolism; Microinjections; *Microscopy; Confocal; Phenotype; Protein Transport; *RNA Interference; RNA; Small Interfering/*metabolism; Time Factors

Ribonucleic acid interference (RNAi) is a powerful tool for study of the intracellular membrane transport and membrane organelle behavior in the nematode *Caenorhabditis elegans*. This model organism has gained popularity in the trafficking field because of its relative simplicity, yet multicellularity. *Caenorhabditis elegans* is fully sequenced and has an annotated genome, it is easy to maintain, and a growing number of transgenic strains bearing markers for different membrane compartments are available. *Caenorhabditis elegans* is particularly well suited for protein downregulation by RNAi because of the simple but efficient methods of double-stranded RNA (dsRNA) delivery. The phenomenon of systemic RNAi in the worm further facilitates this approach. In this chapter, we describe methods and applications of RNAi in the field of membrane traffic. We summarize the fluorescent markers used as a readout for the effects of gene knockdown in different cells and tissues and give details for data acquisition and analysis.

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