Asymmetric distribution of *cyb-3* in 4-cell stage embryos

W. Matthew Michael^{1§}

¹Molecular and Computational Biology Section, Department of Biological Sciences, University of Southern California, Los Angeles, CA 90089, USA

[§]To whom correspondence should be addressed: mattm@usc.edu



Description

Early embryos were fixed and stained with Mab F2F4 (green), shown to recognize <u>CYB-3</u> (Michael, 2016), and DAPI, to illuminate the DNA (blue). Either wild type or <u>par-4</u> mutant embryos were examined, after 24-hour incubation at 25C (the non-permissive temperature for the <u>it47</u> allele of <u>par-4</u>). Anterior is to the left in all images. The data presented here reveals previously not shown data that depicts <u>CYB-3</u> as asymmetrically distributed at the <u>4-cell stage</u>. These data further support reported findings in Michael, 2016. There is more <u>CYB-3</u> in the <u>AB</u> cell relative to its sister <u>P1</u>. In <u>4-cell embryos</u> there is more <u>CYB-3</u> in the <u>EMS</u> cell relative to its sister, <u>P2</u>. Thus, during P-lineage divisions, <u>CYB-3</u> is asymmetrically distributed such that the somatic precursor receives more than its germline precursor sister cell. This asymmetry is abolished in <u>par-4</u> mutant embryos, where all blastomeres contain equivalent amounts of <u>CYB-3</u>.

Reagents

Antibody: Mab F2F4. Strain <u>KK184 *par-4*(*it47ts*)</u> V.

References

Michael WM. Cyclin CYB-3 controls both S-phase and mitosis and is asymmetrically distributed in the early C. elegans embryo. Development. 2016 Sep 1;143(17):3119-27. doi: 10.1242/dev.141226. DOI: 10.1242/dev.141226 | PMID: 27578178. | PMCID: PMC5047676.

Funding: National Institute of Health R01 GM099825 grant.



3/21/2017 - Open Access

Reviewed By: <u>Ian Hope</u>

History: Received March 15, 2017 Accepted March 16, 2017 Published March 21, 2017

Copyright: © 2017 by the authors. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International (CC BY 4.0) License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Citation: Michael, WM (2017). Asymmetric distribution of *cyb-3* in 4-cell stage embryos. microPublication Biology. https://doi.org/10.17912/W27P4P