



European Journal of Histochemistry

SUPPLEMENTARY MATERIAL

DOI: [10.4081/ejh.2024.3977](https://doi.org/10.4081/ejh.2024.3977)

## Senescence-associated $\beta$ -galactosidase staining over the lifespan differs in a short- and a long-lived fish species

Simon Schöfer,<sup>1\*</sup> Sylvia Laffer,<sup>1\*</sup> Stefanie Kirchberger,<sup>2</sup> Michael Kothmayer,<sup>1</sup>  
Renate Löhnert,<sup>1</sup> Elmar E. Ebner,<sup>1</sup> Klara Weipoltshammer,<sup>1</sup> Martin Distel,<sup>2</sup>  
Oliver Pusch,<sup>1</sup> Christian Schöfer<sup>1</sup>

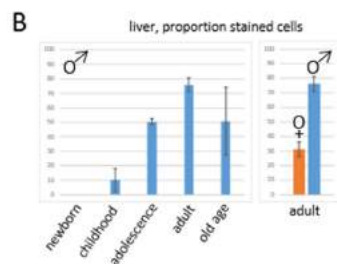
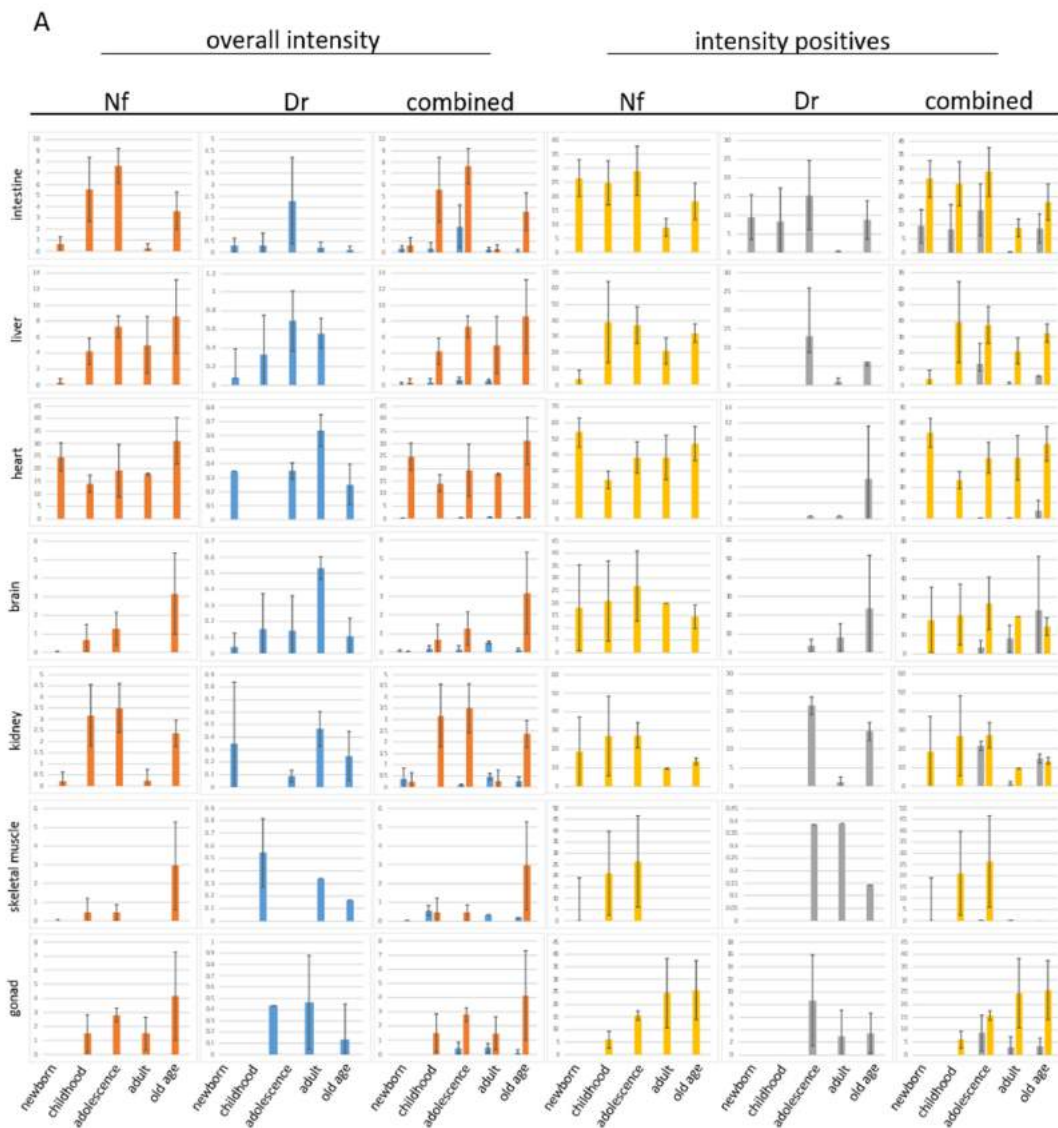
<sup>1</sup>Department for Cell and Developmental Biology, Center for Anatomy and Cell Biology, Medical University of Vienna

<sup>2</sup>St. Anna Children's Cancer Research Institute (CCRI), Vienna, Austria

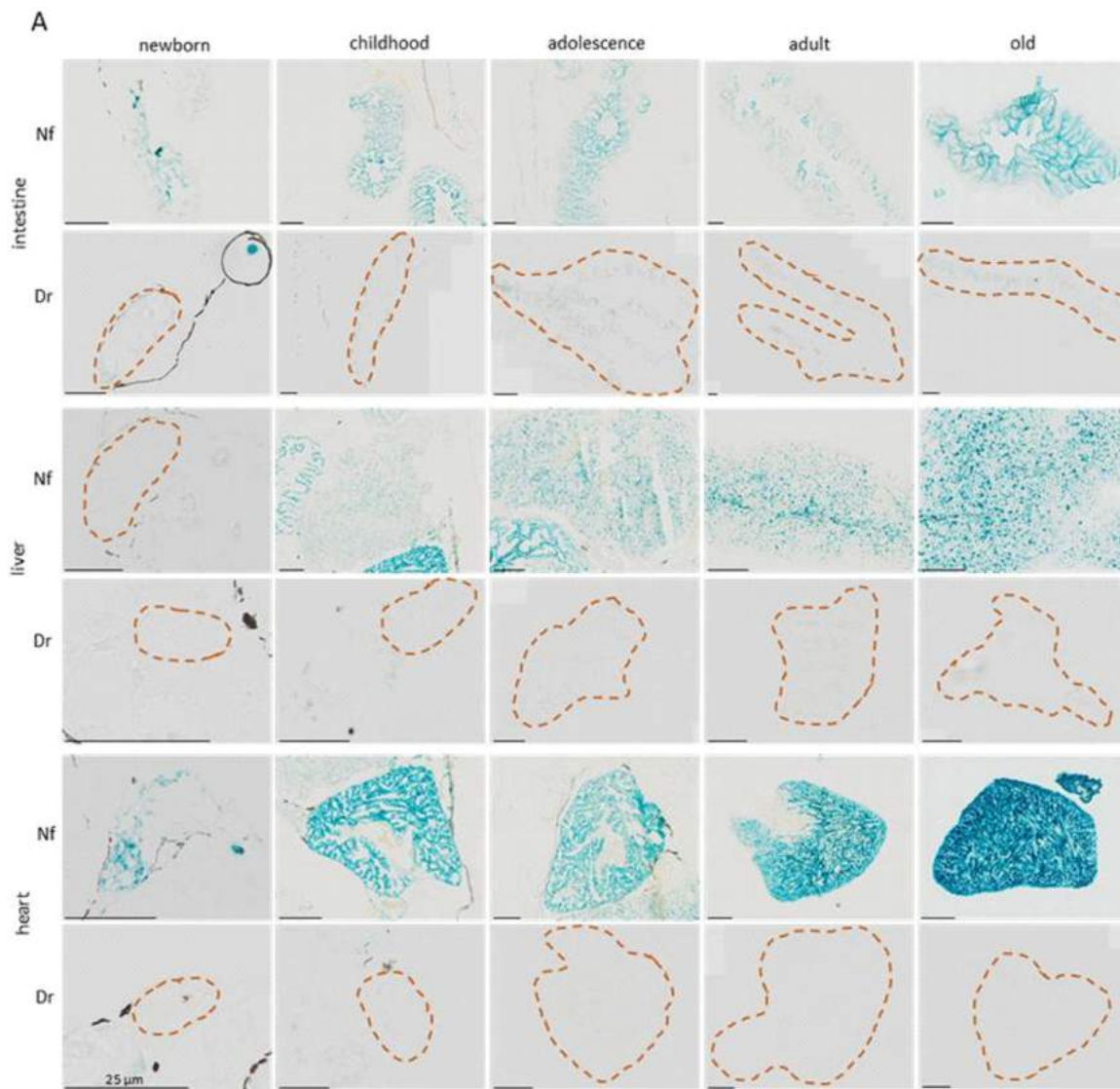
*\*These authors contributed equally*

**Correspondence:** Christian Schöfer, Department for Cell and Developmental Biology, Center for Anatomy and Cell Biology, Medical University of Vienna, Schwarzschanerstr. 17, 1090 Vienna, Austria. Tel. +43.1.40160-37713.  
E-mail: [christian.schoefer@meduniwien.ac.at](mailto:christian.schoefer@meduniwien.ac.at)

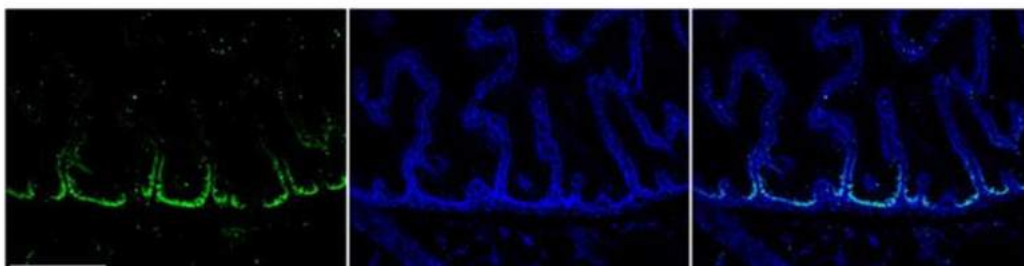
**Key words:** SA- $\beta$ Gal; teleost; senescence; aging; *Nothobranchius furzeri*; *Danio rerio*.



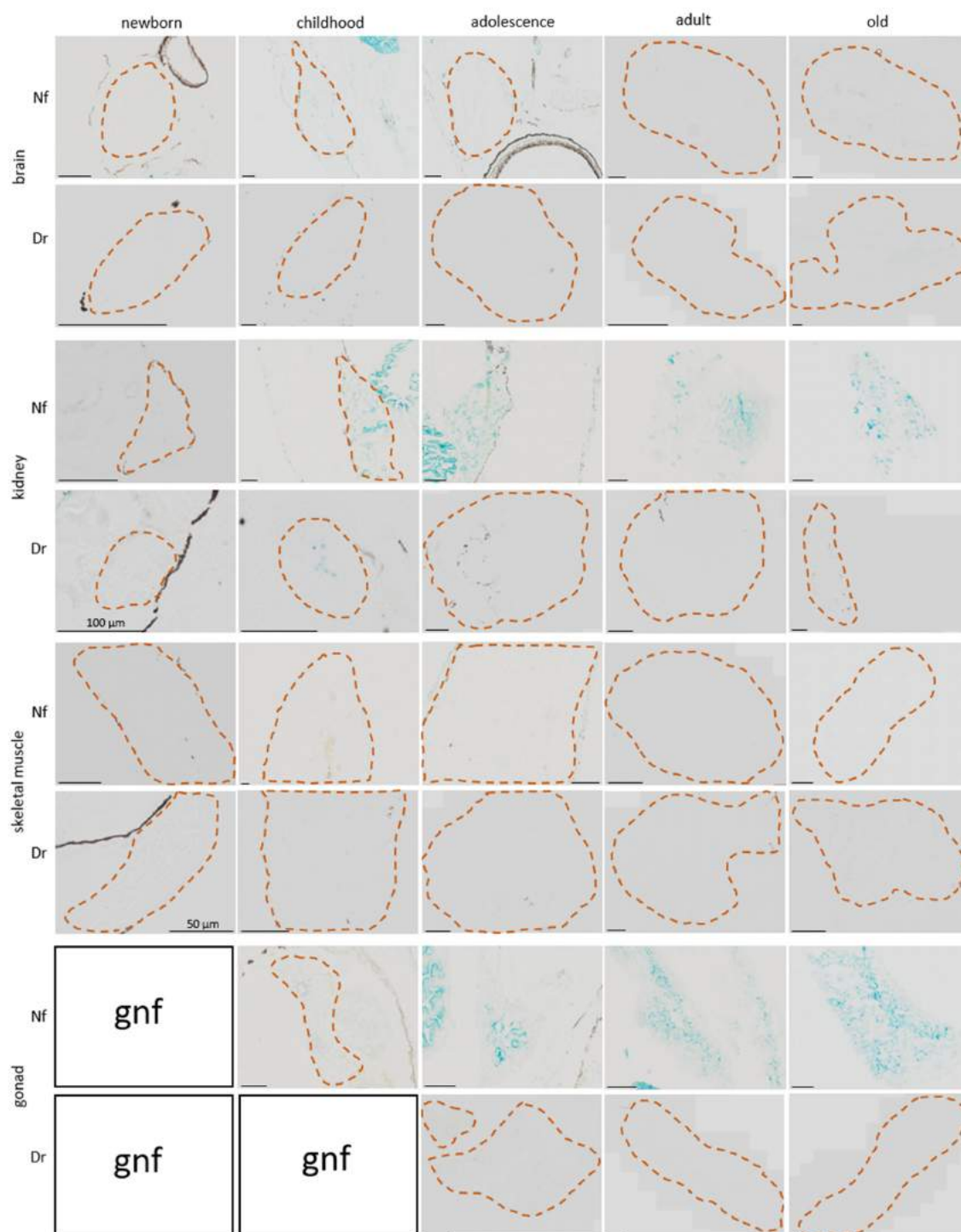
**Supplementary Figure 1.** Quantitative measurement of staining intensities (grey values) in killifish (Nf) and zebrafish (Dr). **A** Overall intensity measured over entire section of all organs; intensity positives represent measured intensity of only the positively stained cells; combined values given to better indicated species-dependent differences. **B**) Proportion of stained cells in all cells of liver along the lifespan of Nf (left); comparison of proportion in adult male and female Nf (12 weeks). Ordinate represents percentage of intensity from black (adapted to maximum bar height); whiskers represent standard deviation.



**B**



A cont.



### Supplementary Figure 2.

SA- $\beta$ Gal staining throughout the lifespan of killifish (Nf) and zebrafish (Dr); representative images; PCNA immunostaining. **A**) Organ outlines are indicated by dashed line in case of absent or low staining. Depicted are age stages Nf 4 dph/ Dr 5 dpf (newborn); Nf 3 weeks/ Dr 6 weeks (childhood); Nf 5 weeks/ Dr 6 months (adolescence); Nf 13 weeks/ Dr 15 months (adult) and Nf 18 weeks/ Dr 26 months (old); cryosections. **B**) Adolescent Nf intestine immunostained for PCNA (green); DAPI blue; overlay; paraffin sections. gnf, gonads not found. Scale bars: 200  $\mu$ m (except otherwise indicated).