

Manuscript Title

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Abstract

Background & Summary

We scanned a *lot* of different mouse strains and so-called hybrids, both male and female. One scan for each strain, each hybrid and each sex gives already 90 samples.

Methods

Sample preparation

- Mice were euthanized
- Mice were decapitated
- Mouse skulls were stored in EMA
- Separated into 4 batches of approximately 110 animals, labeled as B batch_number animal number A and B batch_number animal number B.

Tomographic imaging

- SkyScan 1272 with sample changer
- All log files available here: <https://github.unibe.ch/david-haberthuer/InMice/tree/main/logfiles>
- Report scanning settings and reconstruction parameter data according to¹
- Use a notebook to pull all the relevant data to report directly into the text here, or into a file that is loaded by manubot .

QA

- Use a collection of logfile wrangling code² to go through all the log files of all the aquired scans
 - Use this to surface issues related to aquisition (wrong setting) and reconstruction
- Look at average and maximal brightness of (a subset of) all the projection images aquired
 - Use this to surface issues related to acqisiton, e.g. sometimes the x-ray source inadvertently shut down, or the counts were too low on the camera, etc.

Image processing

- Jupyter³ notebooks, available here: <https://github.unibe.ch/david-haberthuer/InMice/>, for reproducible research.
 - Ingest complete, uncropped reconstructions with dask⁴
 - Crop, based on axial MIPs
 - Save cropped data out as .zarr -files, ready to be loaded with n5-ij⁵ in Fiji⁶
 - Save in other formats, to either use 3D Slicer⁷, [doidoi:10.1016/j.mri.2012.05.001?](https://doi.org/10.1016/j.mri.2012.05.001) or Dragonfly⁸

Data Records

Technical Validation

Usage Notes

Code Availability

- [Jupyter notebooks](#)

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Author Contributions

[Contributor Roles Taxonomy \(CRediT\)](#), as defined in⁹:

- [Conceptualization](#): Bernhard Voelkl, Hanno Würbel
- [Data curation](#): David Haberthür, Larisa Petra Kaija
- [Formal analysis](#): David Haberthür, Bernhard Voelkl
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Competing Interests

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Larisa Petra Kaija	None	
Bernhard Voelkl	None	2025-08-19
Hanno Würbel	None	2025-08-19

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