

Figure 1. Flowchart showing the interaction of the work packages in ZF-HEALTH. Red, work packages 1 (Mutagenesis), 2 (Phenotyping) and 5 (Chemical screens). Blue, Work package 3 (enhancer analysis). Green, Work package 4 (gene expression in the brain).



Figure 2. EZRC Quarantine room. Fish lines are imported as surface-disinfected embryos only, and frozen or transferred to the Core fish room after one generation in the Quarantine room.

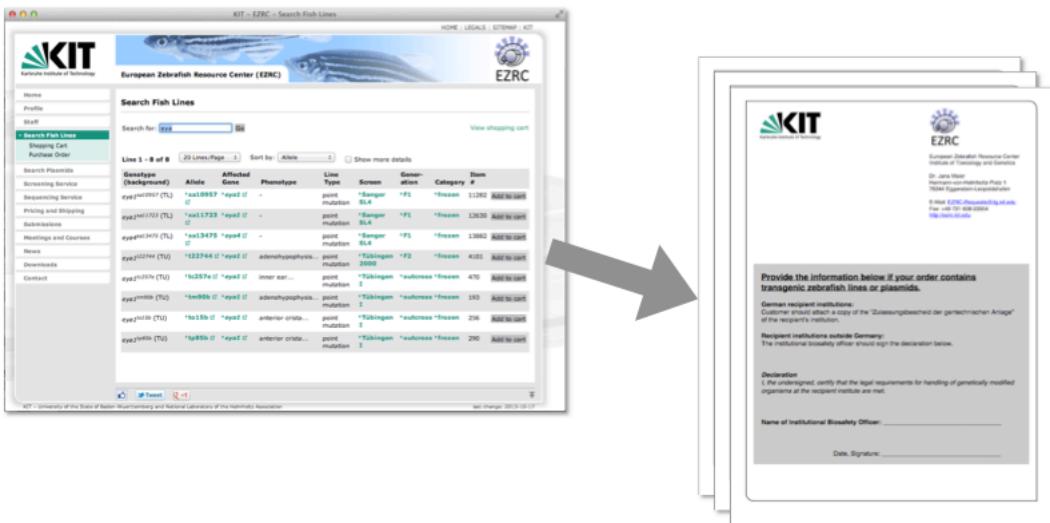


Figure 3. Public website for EZRC, with online ordering system.

Mutation Details

Allele Name: hu3072
 Current Status: **Confirmed mutation in F2 line**
 For more information about the meaning of this status and other statuses, please see our [FAQs](#).
 Availability: Unknown
 Mutations: C > T
 Consequence: Nonsense

Transcript ID	Consequence	Amino Acid Affected	Amino Acid Total	Exon Affected	Exon Total
ENSDART00000004504 ♂	Nonsense	398	866	3	3
ENSDART000000126885 ♂	Nonsense	398	866	2	2

Genomic Locations:
 KASP Assay ID:
 KASP Sequences:
 Flanking Sequences:
 Associated Phenotypes:

Chromosome 22 (position 36071146)
 None (used for ordering genotyping assays from [LGC Genomics](#) ♂)
 None
 ACAGGAAATTCCGCGGCGCTTCACTCTAAACCTTAAGCGCCCGCTCTGCAACA(C/T)GAGTAATGGTCACCAAGCACTATGCGCATCCAGCCAACAATGACCAAGG
 This allele has been associated with this phenotype by genetic linkage analysis and may not be causal. See [FAQs](#) for more info.



Control; 5 dpf



Mutant; 5 dpf



Control; 5 dpf



Mutant; 5 dpf

Stage	Entity	Quality	Tag
Larval: Day 5 ZFS-0000037 ♂	larval locomotor behavior GO-0008345 ♂	disrupted PATO:0001507 ♂	abnormal PATO:0000460 ♂
Larval: Day 5 ZFS-0000037 ♂	skeletal muscle ZFA-0005272 ♂	degenerate PATO:0000639 ♂	abnormal PATO:0000460 ♂
Larval: Day 5 ZFS-0000037 ♂	swim bladder ZFA-0000076 ♂	aplastic PATO:0001483 ♂	abnormal PATO:0000460 ♂

Figure 4. Zebrafish Mutation Project (ZMP) browser showing the *dag1*^{hu3072} mutant phenotype.

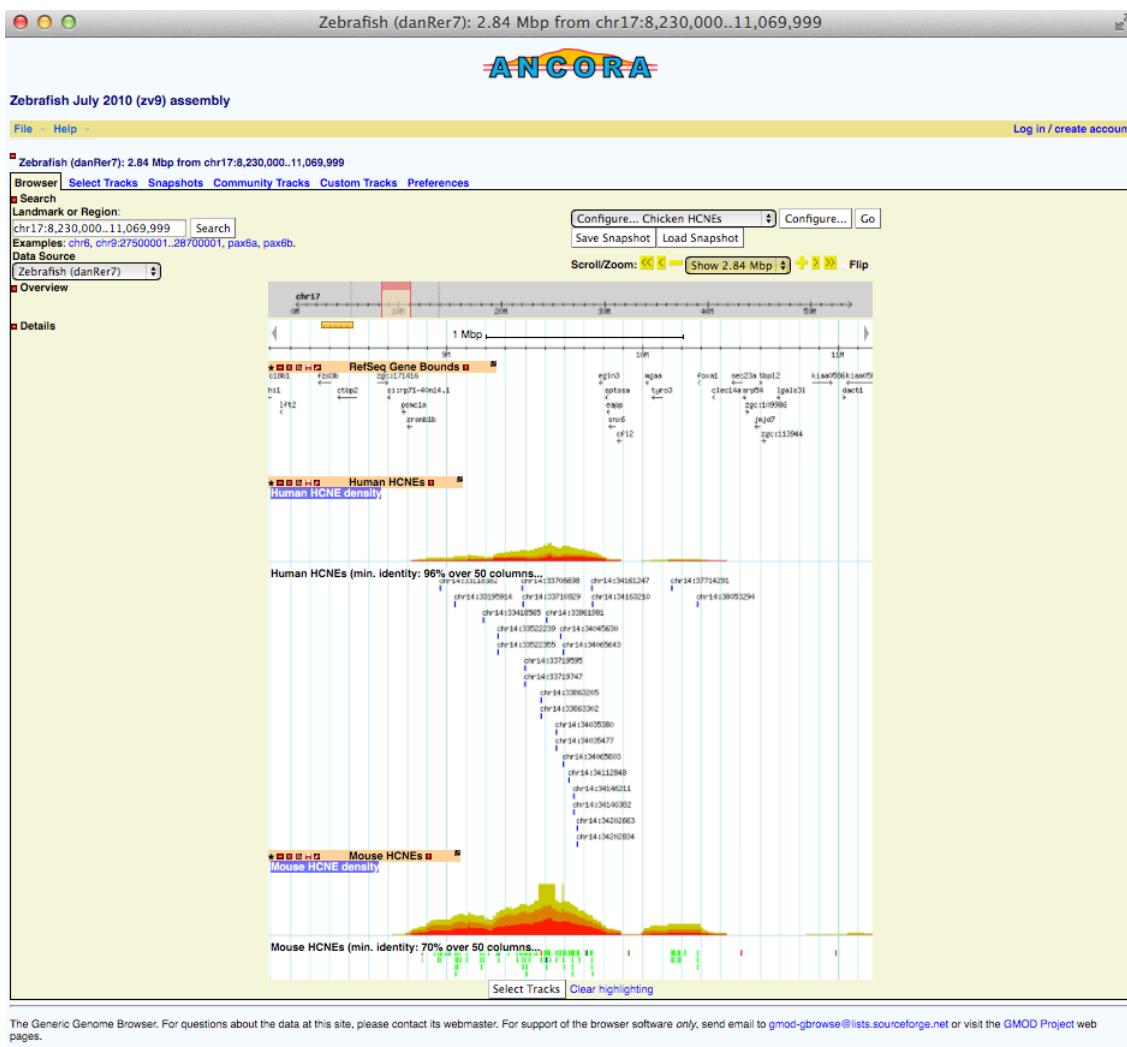


Figure 5. Screenshot of the Ancora browser. The Ancora browser shows conservation between zebrafish, human and mouse genome.

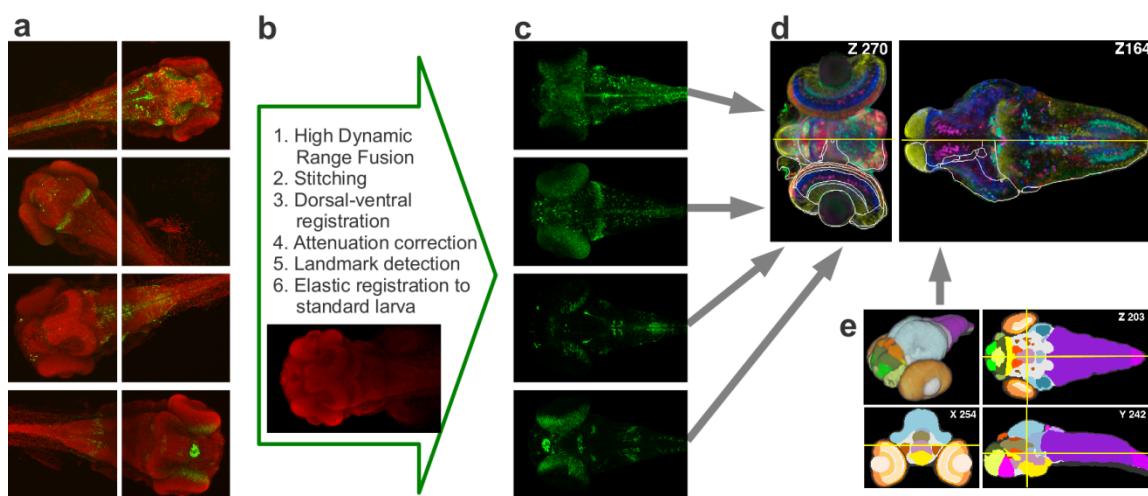


Figure 6. Steps of the ViBE-Z software framework for registration of 3D data volumes to anatomical reference model. For details see Ronneberger et al., 2012.

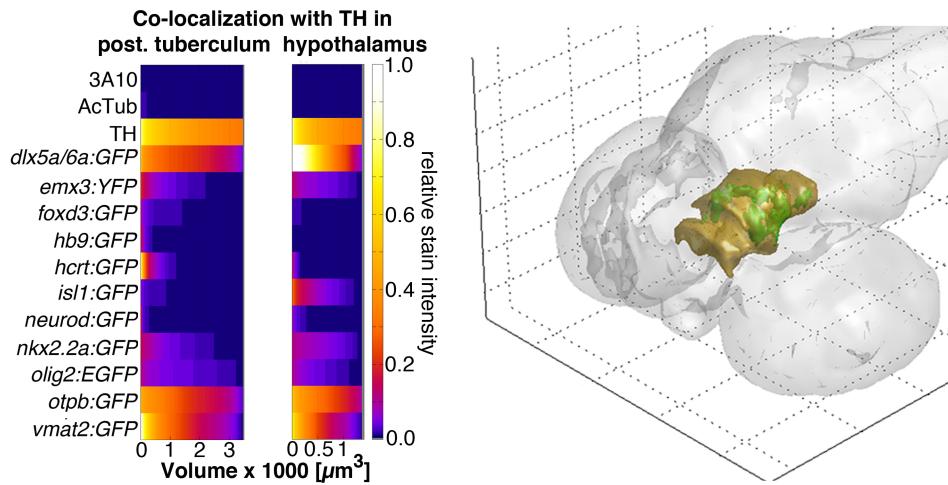


Figure 7. Comparison and visualization of expression volume and relative expression signal intensities in a defined anatomical subvolume. Left: Diagram of subvolumes defined by tyrosine hydroxylase expression within the posterior tuberculum (left column) or hypothalamus (right column). The volume of expression is specified on the x-axis, and the relative signal intensities (expression levels) by a color code from high intensities (white) to background levels (dark blue; bar at right). Right: Visualization of the TH expressing subvolume (green) within the posterior tuberculum (brown) and brain (grey).

ZEBRAFISH BRAIN ATLAS

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hypothalamus [EDIT](#)

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In the adult, the hypothalamus can be divided into tuberal hypothalamus and inferior hypothalamic lobes. Both divisions contain a number of nuclei, some of them periventricular and others more laterally located, further from the ventricle. The tuberal hypothalamus is located caudal to the preoptic region and postoptic commissure.

The inferior hypothalamic lobes are ventral protrusions or lobes in the brain. They consist of two paired lateral inferior hypothalamic lobes and a medial "posterior" hypothalamic lobe. As the medial (posterior) lobe is shorter in the A-P axis than the lateral ones, in transverse sections of very caudal regions only the lateral inferior hypothalamic lobes can be observed. (Wullimann, Rupp and Reichert, 1996).

In the embryo, the inferior hypothalamic lobes are already easily distinguished morphologically (visualised with nuclear labelling) protruding ventral to the tegmentum. 5HT expression can be detected in some tuberal regions and in the lateral inferior hypothalamic lobes (Teraoka et al., 2003).

In addition to the 5HT positive neuronal populations in the hypothalamus there are also three Thyrosine-Hydroxylase positive groups of neurons within the hypothalamus by 5dpf (Rink and Wullimann, 2002).

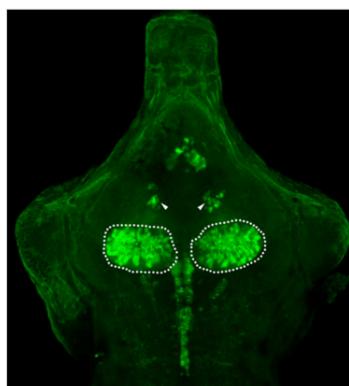


Figure 1
Ventral view of a 3dpf embryo labelled with anti-5HT antibody showing expression in the periventricular regions of the inferior lobes of the hypothalamus (circled) and also some cells more anteriorly in the tuberal hypothalamus (arrowhead).

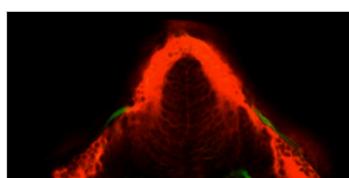


Figure 2
Confocal slice through the inferior lobes of the hypothalamus of a 4dpf Tg(vmat2:GFP) labelled with anti-GFP and anti-acetylated tubulin antibodies showing periventricular hypothalamic neurons arranged surrounding an internal lumen with their processes directed internally.

TUTORIAL STATUS

In Development

RELATED REGIONS

is part of the diencephalon
comprises of
the dorsal zone
the median tuberal portion
the ventralsulcus

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none

GLOSSARY

none

Figure 8. A screen shot of the hypothalamus tutorial from zebrafishbrain.org.