



Report of Deliverable No: 6.1

Grant agreement number 200800

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PU = Public

PP = Restricted to other programme participants (including the Commission Services).

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Deliverables WP6 Year 1- zebrafish gene expression patterns of genes identified in genetic screens. The genes whose expression has been published previously, are referenced with the original publications. Two genes of which expression studies have been finalized are described at the end of this report.

- **GDF5**: the gene expression studies were carried out in 1997 and 2001:

Bruneau S, Mourrain P, Rosa FM. Expression of contact, a new zebrafish DVR member, marks mesenchymal cell lineages in the developing pectoral fins and head and is regulated by retinoic acid. *Mech Dev.* 1997 Jul;65(1-2):163-73.

Crotwell PL, Clark TG, Mabee PM. Gdf5 is expressed in the developing skeleton of median fins of late-stage zebrafish, *Danio rerio*. *Dev Genes Evol.* 2001 Dec;211(11):555-8. Epub 2001 Nov 23.

- **DIO2**: the gene expression studies were carried out in 2003 and 2007

Thisse C, Degrave A, Kryukov GV, Gladyshev VN, Obrecht-Pflumio S, Krol A, Thisse B, Lescure A 2003 Spatial and temporal expression patterns of selenoprotein genes during embryogenesis in zebrafish. *Gene Expr Patterns* 3:525–532

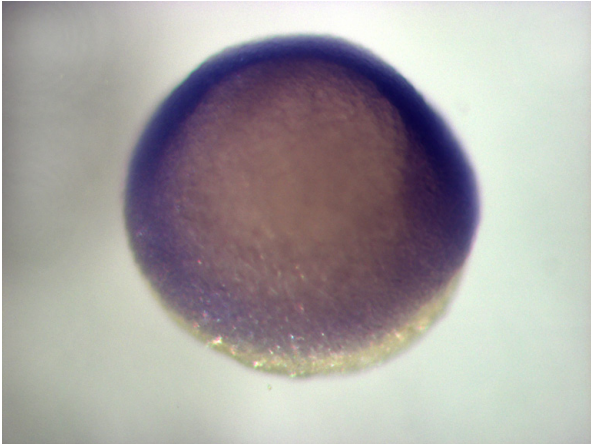
Walpita CN, Van der Geyten S, Rurangwa E, Darras VM 2007 The effect of 3,5,3_-triiodothyronine supplementation on zebrafish (*Danio rerio*) embryonic development and expression of iodothyronine deiodinases and thyroid hormone receptors. *Gen Comp Endocrinol* 152:206–214

- **BID**: the gene expression studies were carried out in 2006

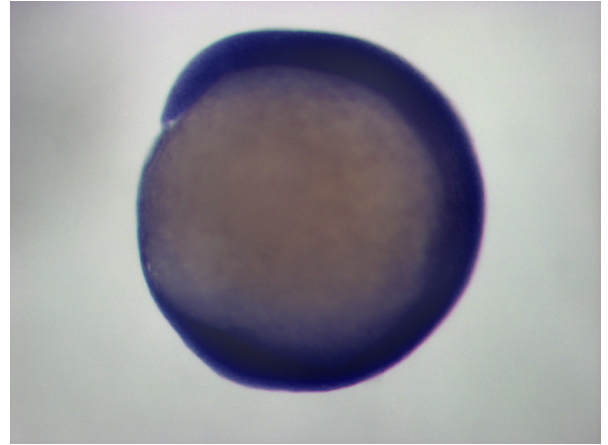
Functional characterization of the Bcl-2 gene family in the zebrafish. Kratz E, Eimon PM, Mukhyala K, Stern H, Zha J, Strasser A, Hart R, Ashkenazi A. *Cell Death Differ.* 2006 Oct;13(10):1631-40. Epub 2006 Aug 4.

- **KULchr6**: using three independent in situ probes we detected KULchr6 mRNA from 2 cell stage onwards in a rather ubiquitous expression pattern. At 60% epiboly, KULchr6 mRNA was detected in the epiblast as well as in the margin of the involuting zone within the hypoblast. At 5-6 somite stage the expression was still ubiquitous. At 24 hpf, the mRNA was detected in the midbrain-hindbrain boundary, neural tube, eye, and intersomitic regions. Cryosectioned material from embryos at 24 hpf revealed the expression of KULchr6 mRNA at this stage of development was detected in mid-hindbrain, retina of the eye, floor and roof plate (see Fig 1 for data)
- **GRB10**: mRNA was detected from 2 cell stage onwards in ubiquitous expression pattern. At later stages (24hpf) the expression levels of the gene were apparently diminishing but the expression pattern remained ubiquitous throughout the embryo (Fig. 2).

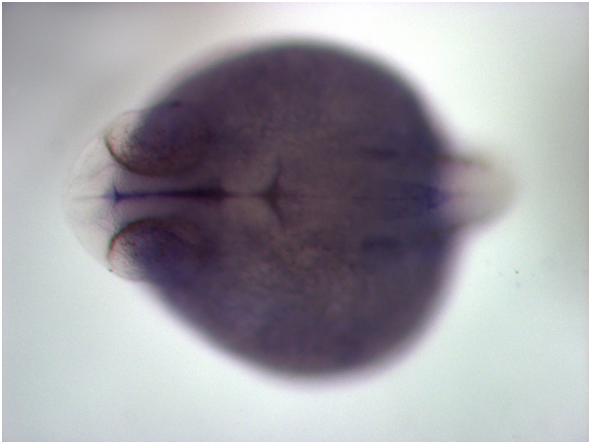
KULchr6



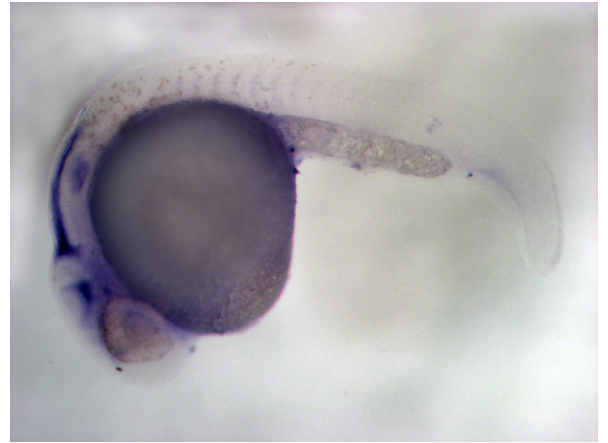
Shield Stage, animal view



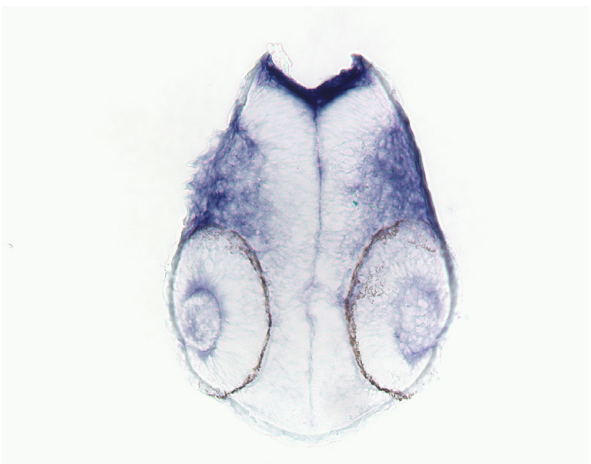
5-6 somite stage, lateral view,
dorsal-anterior to the top



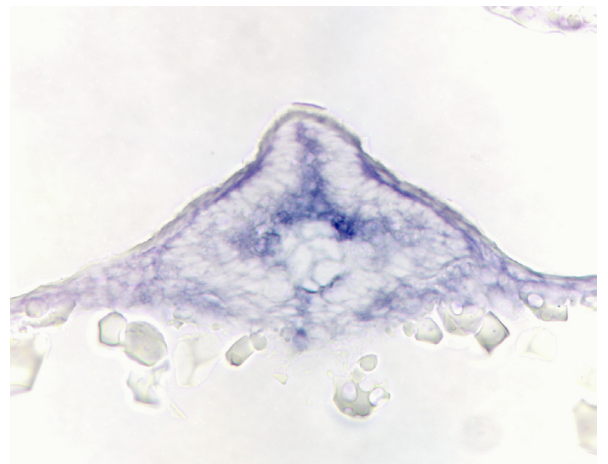
24hpf embryo, dorsal-anterior view



24hpf embryo, lateral view, anterior to the left



24hpf embryo, transversal frozen section
across the head region



24hpf embryo, transversal section across
the neural tube

Grb10



24hpf. Anterior to the left, dorsal view