"All the Zebrafish News That's Fit to Print"

THE ZEBRAFISH SCIENCE MONITOR

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BULLETIN BOARD ESTABLISHED IN EUGENE

"We're going to make your life easier", says David Brumbley, head of the Neuroscience Technical Support Group at the University of Oregon. "This electronic bulletin board will be great for publishing the Monitor and for making information easily available to people around the world."

Most people presently use electronic mail (e-mail) and have access to Bitnet, Internet, or one of the other computer networks. The zebrafish *Monitor* will soon have its own node, ZEBRAFISH@UONEURO.UOREGON.EDU or ZEBRAFISH@UONEURO.BITNET.

Hopefully, people will use this node to contribute information for the *Monitor* and to request past issues. Electronic submissions can be incorporated into future issues of the newsletter very efficiently. Requests will be answered and sent by return e-mail.

Another feature of the bulletin board will be direct dial-in. Users with computer modems can log onto the board directly by dialing a regular phone number. They will be greeted by simple requests that will direct them to the bulletin board.

The board is a place where users can leave messages or requests and contribute information to the *Monitor* or to other users. Users will have direct on-line access to various data bases including the complete list of addresses and phone numbers of members of the zebrafish community, the zebrafish literature list, the updated version of *The Zebrafish Book*, past issues of the *Monitor*, and lists of available reagents like antibodies, libraries, and mutants.

The dial-up feature should be ready by July, 1991. You can find out about it with an e-mail request or by watching future issues of the *Monitor*.

ZEBRAFISH RESEARCH COMMUNITY STARTS TALKING

An NIH sponsored workshop, held in Eugene, September, 1990, recommended publication of a newsletter for improved communication among the growing number of zebrafish labs.

Conference attendees agreed that the newsletter should provide an open forum for recent scientific updates, announcements and reviews of meetings, requests for materials and methods, and a 'who's who' section that lists people and projects.

"Hopefully, people will contribute results, even before they are published in journals," suggested workshop organizer, Joel Schindler. The newsletter can be great if everyone takes it seriously.

This first issue of the *Monitor* is being published in Eugene and contains information gleaned primarily from the Oregon zebrafish community. It contains a list of all people presently on the mailing list with their phone and FAX numbers and E-mail addresses. Please send similar information to the editor if you are not yet on the mailing list.

Contributions and suggestions for future editions are encouraged and should be addressed to the editor. See the editorial on page 2 for more information.

ZEBRAFISH GENOME PROJECT

A recommendation of the NIH zebrafish workshop, was to establish a linkage map of the zebrafish genome. Attendees agreed that an efficient method would be to start with a linkage map of molecular markers. Mutations and cloned loci can later be placed on the map by simple crosses.

At least two groups are working on the map. In Boston, several labs, coordinated by Cliff Tabin, are planning to obtain funding for mapping using automated methods for sequencing. They intend to use DNA from the Oregon AB wildtype" line. The Gilbert lab is working on a YAK library also from the AB line.

On the West Coast, Geoff Duyk has made libraries from the C32 clonal line and is screening for simple sequence repeats. He has recruited sequencing help from the Grunwald and Westerfield labs. The linkages will be established with help from the Boston group and from the Berkeley genome facility under direction of Jasper Rine.

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...an informal vehicle dedicated to communicating zebrafish news. References to information appearing in the Monitor should be made as personal communications and only if explicit permission of the authors is obtained.

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From the Editor

Hey, here we are! What a great day for the zebrafish research community! We've gotten big enough to need our own publication. The community moans in unison, "Oh no, not another journal."

But we intend something different. We see a vision: an open forum for rapid presentation of new results, for dissemination of new methods and materials, for personal news and announcements, and most importantly for publishing results of interest only to us! We see a forum for open discussion and improved communication.

Better science will be done more efficiently if we all talk to one another.

So, pitch in and help. Read the newsletter and pass it on to your colleagues. Add your name to the register if it's not already there. Contribute information that others should know.

"Yeah, but what do I know that's interesting for the *Monitor*?" the hushed masses sigh.

Well, how bout the abstract from your paper that was just submitted or accepted? Don't you know someone who is moving soon? Haven't you got a result that's interesting but probably won't be ready for a full length paper until next year?

We'll do our job, too. We will publish issues of the *Monitor* at regular intervals. We will do our best to publish 'all the zebrafish news that fit to print'. We will make a serious campaign to get everyone on the mailing list.

In future issues we plan to include an updated versions of the zebrafish literature reference database and additions to *The Zebrafish Book*.

GENES AND MUTANTS

Cambridge, USA and Köln. There are more and more transgenic zebrafish. Contact Nancy Hopkins, Carl Fulwiler, or José Campos-Ortega for details.

Chicago. Ian Drummond has cloned zinc finger genes from zebrafish that are related to mouse Egr genes.

Eugene. Charline Walker recovered a lethal mutation at *gol-1* from sperm kept frozen in liquid N_2 more than 8 years. Marc Ekker and Marie-Andrée Akimenko have cloned *engrailed* genes and a family of Hox-7 related genes. Marnie Halpern and Robert Ho are characterizing the mutation *ntl-1* that produces a phenotype very similar to the brachyuria mouse.

Newcastle upon Tyne. Trevor Jowett has cloned Hox-7 and 2.9 related genes.

Paris. Zebrafish have caudal and *even-skipped* homologues. Contact Jean-Stéphane Joly for details.

Philadelphia. Eric Weinberg's lab has cloned a myo-D and several *Achete-scute* homologues.

Trømso. Stefan Krauss has cloned several *pax* genes from zebrafish.

Tübingen. Zebrafish have a "*T*" gene. See Stefan Schulte-Merker for information.

Salt Lake City. David Grunwald's lab, including Scott Stachel and Bob Riggleman, has cloned NCAM, *veg-1*, cytokeratin type II, myogenin, and -retinoic acid receptor homologues.

Rehovot. N-cadhern homologues have been cloned from zebrafish in Benny Geiger's lab.

FISH R US

Ann Arbor. John Kanki has joined John Kuwada's lab after finishing his Ph.D. at UC San Diego.

Boston. Geoff Duyk has accepted a position at Harvard Genetics and will be moving from San Francisco this Fall.

Eugene. Don Kane plans to defend his dissertation this summer. Andreas Fritz will join the Westerfield lab as a postdoc in July, after finishing work with Ernst Hafen in Zürich. Sue Pike defended her dissertation in May and will join Steve Smith's lab at Stanford in the Fall.

London. Steve Wilson has accepted a position in the Anatomy Department at ing's College and will move from Ann Arbor soon. The first British gathering of zebrafishers took place last December with a small meeting organized by Nigel Holder. Rumor has it that there will a satellite fish meeting associated with the Brighton annual developmental biology meeting next April. Peter Thorogood is the rumored organizer.

Okazaki. Hitoshi Okamoto has accepted a position with the National Institute of Basic Biology after finishing a post-doc with John Kuwada in Ann Arbor.

Tübingen. Eric Weinberg has been on sabbatical with Janni Nusslein-Volhard. He will return to Penn in October.

DIVERSITY OF EXPRESSION OF *ENGRAILED*-LIKE ANTIGENS IN ZEBRAFISH

Kohei Hatta, Ruth BreMiller, Monte Westerfield and Charles Kimmel; Institute of Neuroscience, University of Oregon, Eugene, OR 97403, USA

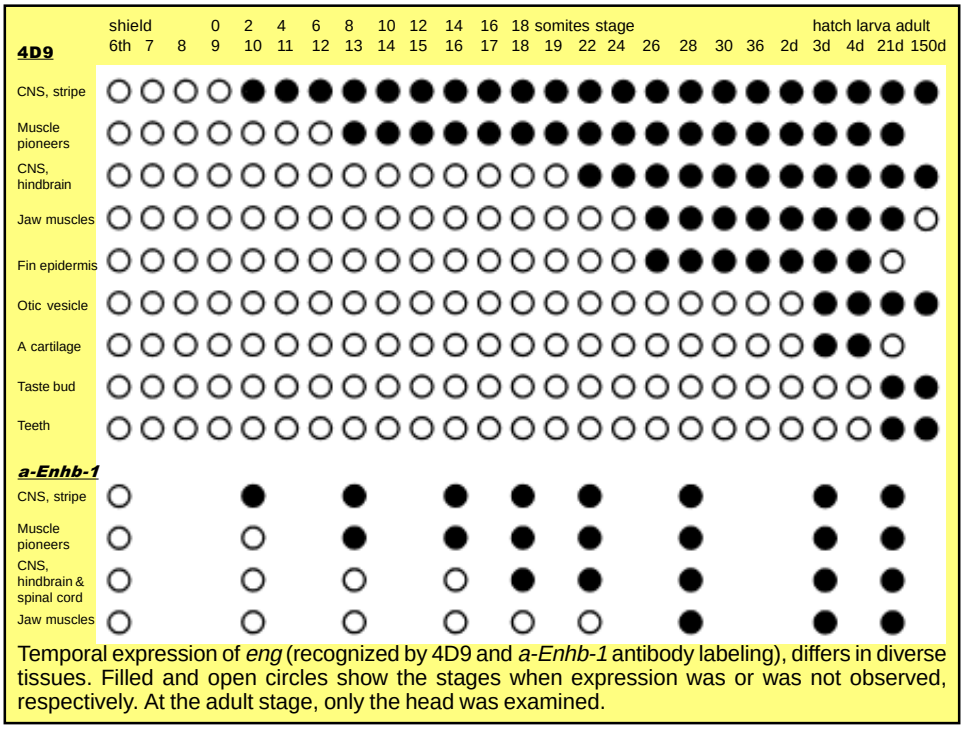
We have studied developmental expression of zebrafish engrailed-like (*Eng*) antigens. Many cell types are reproducibly labeled by two antibodies that recognize the *Eng* homeodomain, but other cells are labeled by only one or the other, suggesting a hitherto unrecognized complexity of *Eng* proteins.

Expression patterns vary remarkably according to cell type and location. In the undifferentiated primordia of the brain and of each myotome, expression by a stripe of cells spatially subdivides the primordium at a location where a morphological boundary forms later, suggesting expression may be required for development of the boundaries.

Supporting this hypothesis, trunk myotomal cells that express *Eng* are absent in *spt-1* mutant embryos, just where the myotomal boundaries fail to form. Another pattern is present in rhombomeres, pharyngeal arches, and the pectoral girdle. In each of these cases, cells (neurons, muscle, cartilage) generating a subset of a series of repeated elements selectivity express *Eng*. These subsets then form specialized derivatives, suggesting *Eng* homeoproteins are involved in determining the specializations.

Epidermal expression is present in the ventral half of the pectoral fin rudiment, precisely "compartmentalizing" the fin. Neuronal cells at a certain dorsoventral level in each hindbrain and spinal cord segment selectively express *Eng*, suggesting segmental control of neuronal identity. Specific expression patterns are observed in taste buds, otic vesicles, and teeth.

Thus, we propose that eng genes function in diverse cell types in zebrafish, but play selector roles that can be classified into a few basic types. *Development*, in press.



Temporal expression of *eng* (recognized by 4D9 and *a-Enhb-1* antibody labeling), differs in diverse tissues. Filled and open circles show the stages when expression was or was not observed, respectively. At the adult stage, only the head was examined.

Address and Publication updates are not included in this version