_user manual



January 2009 © 2008-2009 m.ormestad/e.roettinger

_summary

querying the database

- 1. search by gene name
- 2. advanced search
- 3. query results (species)
- 4. query result (search by gene name) part I
- 5. query result (search by gene name) part II

adding/editing information

- 1. overview
- 2. general guidelines
- 3. adding a gene
- 4. ...
- 5. ...



search by gene name



_advanced search

home tools comm	unity images new	s and articles			about	
Introduction gene expression species marine stations						
Sal-		SEARCH	TOOLBOX			
N 100 - 100	-		Search by gene name	Genes	show all	
	Man as S	Enter gene name	Add new gene			
				Species Add new species	(show all)	
(66)		2λ	Select species All species			
		6	Search by stage and expression domain			
			Select species			
			All species 🗘 Update			
Please select stage: submit the search.	s and domains to t	he right before you	Select developmental stages	Select expression domains		
Search			Egg	Animal		
			Cleavage	Vegetal		
			🗆 Blastula	Ectoderm		
			🗆 Gastrula	Endoderm		
			Larval/Embryo	Mesoderm		
			Adult	Germ cells		

All species

list of simplified developmental stages and gene expression domains optimized for inter-species comparison.

check the boxes corresponding to the developmental stages and/or expression domains of interest. click the SEARCH button to view the query results in all species or in one given species.

introduction gene expression species marine stations		
	SEARCH	TOOLBOX
	Search by gene name	Genes (show a
	Enter gene name	Add new gene
	enter gene name	Species ehow a
	Select species	Add new species
	Nematostella vectensis	
	Search by stage and expression domain	
	Select species	
	Nematostella vectensis 🕴 Update	
Please select stages and domains to the right before you submit the search.	Select developmental stages	Select expression domains
Search	Egg	Animal
	🗆 Egg	Animal hemisphere
	Cleavage	Animal pole
	Cleavage	Vegetal
	🗆 Blastula	Vegetal hemisphere
(search ALL)	🗇 Blastula	Vegetal pole
larval stages	Gastrula	Ectoderm
tur vat stages	Early Gastrula	Apical tuft ectoderm
	Late Gastrula	Base of tentacle ectoderm
	Mid Gastrula	Body wall ectoderm
	Larval/Embryo	Intratentacular ectoderm
search only UNE	Early Planula	Mesentery (Ectoderm)
specific larval stages	Late Planula	Oral Ectoderm
	Planula	Pharyngeal ectoderm
		Tentacie ectoderm
	Adult	
		Anicol tuft endederm
	_ javenne	Aprear for endoderm Base of tentacle endoderm
		Body wall endoderm
		Mesentery (Endoderm)

Selected species

Tentacle endoderm

list of all developmental stages and gene expression domains optimized for the given species

_query results (species)

ho	me tools community in	mages news and articles					about
intr	introduction gene expression species marine stations						
ľ		SPECIES INFO	Edit	DATABASE INFORMATION			
l		Name Nematostella vectensis (Starlet sea anem	one)	Number of species	sho	<i>n</i> all	
		Taxon Caidada		Number of genes	sho	<i>n</i> all	
			Added by		Number of experiments		
			Mattias Ormestad on 11 Jan 2008		84		
			Papers about this species	(show all)	Number of images		
		No papers added yet!		584			
				Tools			
					Add new species		
RE	CENTLY PUBLISH	ED GENES FOR THIS SPI	ECIES				S
A	l users 🚺 You	D					
	Gene	Species	Added by				
	Tcf	Nematostella vectensis	Patricia Lee on 15 J	lan 2009		프	E 👕
	Brachyury	Nematostella vectensis	Mattias Ormestad o	on 25 Nov 2008		즈	E 👕
	Wnt3	Nematostella vectensis	Mattias Ormestad o	on 25 Nov 2008		프	Ξ 🖬
	FoxA	Nematostella vectensis	Mattias Ormestad o	on 25 Nov 2008		프	Ξ 🖬
	OtxB	Nematostella vectensis	Mattias Ormestad o	on 15 Oct 2008		즈	E 👕
Cor	Compare selected All None						

list of recent added genes for the given species. click the arrows on the right to get a complete list (alphabetic order). __check the boxes of several or all genes to compare their expression pattern.

_click on the gene name to view the single gene expression pattern.

_ query result (search by gene name) part I



list of experiments added for the gene in the given species (the default view is the wild type expression) click on the "Experiment "bar to view all available experiments

toolbox, to add experiments, edit the given gene, add a new gene, and request the implementation of a new species (depending on required privileges).



overview of available pictures representing the gene expression pattern (wild-type or treatment). pictures with blue arrows underneath indicate a stack of pictures. click on the arrows to get the next view. click on the image itself to get a bigger view and more details grid-view of gene expression for one given gene. the rows (left) represents the developmental stages, the columns (upper part) the defined expression domains. color code as indicated in legend. mouse over the colored box, shows the expression information and clicking on the colored box leads to the corresponding images

亩

前

_ query result (search by gene name) part II

GENES WITH A SIMILAR EXPRESSION PATTERN

Gene	Species	Score	Added by	
MoxA	Nematostella vectensis	0.13	Kevin Pang on 14 Oct 2008	≞ E
Anthox7	Nematostella vectensis	0.13	Kevin Pang on 20 Aug 2008	<u>a</u> e
NvHD060	Nematostella vectensis	0.13	Kevin Pang on 25 Aug 2008	≞ E
Gbx	Nematostella vectensis	0.13	Kevin Pang on 14 Oct 2008	<u></u> ≞ ≣
Wnt16	Nematostella vectensis	0.13	Kevin Pang on 14 Oct 2008	2 E
Anthox8b	Nematostella vectensis	0.12	Kevin Pang on 20 Aug 2008	≞ E
Anthox6	Nematostella vectensis	0.12	Kevin Pang on 30 Nov -1	≞ E
Rx	Nematostella vectensis	0.11	Kevin Pang on 14 Oct 2008	<u>a</u> e
Mnx	Nematostella vectensis	0.11	Kevin Pang on 14 Oct 2008	≞ E
Otp	Nematostella vectensis	0.1	Kevin Pang on 14 Oct 2008	≞ ≣
Rough	Nematostella vectensis	0.1	Kevin Pang on 14 Oct 2008	≞ E
Msx	Nematostella vectensis	0.1	Kevin Pang on 30 Sep 2008	<u>a</u> e
Msx2	Nematostella vectensis	0.09	Kevin Pang on 30 Sep 2008	≞ E
Wnt3	Nematostella vectensis	0.06	Mattias Ormestad on 25 Nov 2008	<u>a</u> e
Hedgehog	Nematostella vectensis	0.06	Eric Röttinger on 22 Sep 2008	2 E
dopa beta-monooxygenase	Nematostella vectensis		Heather Marlow on 11 Aug 2008	≗ E

Compare with current Al None

GENE ONTOLOGY, PATHWAYS & ORTHOLOGS

No protein id has been added for this gene so we are unable to check our GO dataset

No protein id has been added for this gene so we are unable to check our KOG (euKaryotic Orthologous Groups) dataset

No protein id has been added for this gene so we are unable to check our EC dataset

COMMENTS

No comments have been added yet!

Add a comment	
Title	
Comment	

list of genes with a similar expression pattern, automatically created based on the informations provided by the users while adding gene expression data to the database. the lower the value the lower the similarity!

_check the boxes of several or all genes to compare their expression pattern. _click on the gene name to view the single gene expression pattern.

if information about gene ontology, pathways and orthologs are available for "your" species and provided by the genome sequencing center, please submit this information in order to allow us to implement this information in the database. if this information and a protein Id have been provided while adding the gene to the database, these data will be automatically retrieved and shown in this section.

field to leave a comment (wouah! what a beautiful expression pattern for example!) visible to all users.

_query result (single image view)

kahikai			Welcom	e, Eric Röttinger (Logout)
home tools community images news and arti	cles			about
introduction gene expression species marine	stations		_	
IMAGE INFORMATION	GENE INFORMATION		TOOLBOX	
Stage	Gene name and synonyms		Image	
Mid Gastrula	Anthox1 (NvAx1 and "posterior hox")		Download hi-res image	
View	Species		 Edit image Delete image 	
Lateral	Nematostella vectensis		Conos	ebow ell
Species	Gene added by		Add new gene	
Nematostella vectensis	Kevin Pang on 20 Aug 2008		Species	(show all)
Image added by	Papers about this gene	show all	Add new species	
Kevin Pang on 20 Aug 2008	No papers added yet!			
	Comments about this gene	show all		
	Be the first to comment on this gene!			

overview of all available information concerning the given gene expression image.

you are able to visualize and even download a high resolution image for your personal use. please contact the person who uploaded the image to the database and credit the person accordingly if you wish to use the image for presentation/publication. these images are not for commercial use in any case!

IMAGE DATA



Expression Vegetal pole
Image description N/A
Experiment description N/A

how to enter data to the database - overview -

In order to be able to add data to the database/website and for security reason you have to be a registered member!!!

_adding a new species

if you wish to add a new species to the database, please use the "species request form", follow the instruction by providing as much details as needed, and we will add the new species to the database as soon as possible.

_adding a new gene

to add a new gene to the database, please use the "new gene" feature in the toolbox and follow the instructions. for a good performance of the database, please use the general gene name, no abbreviations and add synonyms if available.

_adding a new experiment

to add a new experiment (wild-type, drug treatment, injection etc...) associated to a given gene please select the "add experiment" feature in the gene specific toolbox and follow the instructions. after adding a new experiment you can decide to "publish" it allowing all KahiKai members to see the experiment or maintaining it unpublished. in the latter case, the experiment will only be visible by the members of your lab. in addition you can create a group, invite people outside your lab to that group and share experiments with them.

_editing genes or experiments

if you are the person who added the gene/experiment to the database, you have the authorization to edit them at any time. if you wish to edit gene/experiment information not added by you, please contact the submitting person. in case there are other problems please contact us and we will try to resolve them as soon as possible.

kahikai Comparative Marine Invertebrate Gene Expression Database _ general guidlines

In order to get a homogenous and easy to use gene expression database, please use the following guidelines to add new gene expression patterns.

1. for optimal performance of the database and to get most out of it, please provide as much information as possible.

2. please cite correctly the original work and where the uploaded experiments are coming from.

3. if possible, the picture you upload should be square (and cropped to have as little empty space as possible) and be not bigger than 3000x3000px or 4mb. the picture can be in tiff or jpg.

4. please orient the pictures always the same within a species. if possible and depending on the stages the animal pole and the dorsal side should be up, the vegetal pole and the ventral side should be down. the anterior and the oral side to the left and the posterior and aboral side to the right. of course, these guidelines may vary depending on the view provided.



_adding a new species

if you wish to add a new species to the database, please provide as much details as possible using the "add species" form.

1. enter general and genomic information if available for the given species.

2. provide a high quality picture representing the new species

3. provide a detailed list of developmental stages (modifications need to be done by us!)

4. provide a detailed list of expression domains
 (modifications need to be done by us!)

5. if available please provide a general reference about the species

kahikai		Welcome, Eric Röttinger Logout
home tools community images news and articles		about
introduction gene expression species marine stations		
ADD SPECIES	TOOLBOX	
Add species text	Genes	show all
1. Species information Species thumbrail	Add new gene	
3. Developmental stages	Species	show all
4. Expression domains 5. Papers Cancel SPECIES INFORMATION (1/5) Requested by (enter user ID)	Add new species	
Latin name		
Common name		
TaxonID		
Taxon		
Link to genomic database		
Pace URL for links to gone ID's		
base one for links to gene ID's		
Save	 	

_ adding a new gene

if you wish to add a new gene to the database, please provide as much details as possible.

> 1. please enter a general gene name and its synonyms if available and select the species for which you wish to add the gene.

2. if available please provide the reference (s) in which the gene expression is discussed

kahikai		И	/elcome, Eric Röttinger Logout)
home tools community images news and articles			about
introduction gene expression species marine stations		_	
ADD GENE	GENE INFORMATION	TOOLBOX	
Adding a new gene to the database is a simple two step process. First you enter information about the gene such as name, synonyms and species in the window below. The second step of the process is to start adding your experiments.	Gene name No gene selected!	Genes Add new gene Species	ehow all
 J. Gene information 2. Publications Cancel 		Aud new species	
GENE INFORMATION (1/2)			
Gene name			
Synonyms (separate by comma)			
Species Nematostella vectensis 🕴 🗘			
Gene ID (optional)			
Protein ID (optional)			
Save			

_adding a new experiment I -general information-

if you wish to add a new experiment to the database, please provide as much details as possible.



2. you have to specify in which lab this experiment was performed. to add your labs to the list below, you first have to check if your lab exists in our community. You can do that by searching on the community page, and if it already exist you can send an application to join (this is a necessary security measure since all lab-members of a lab can see unpublished data). If the lab does not exist you can create a new labgroup in your <u>settings</u>. You can't add your experiment unless a lab is specified!

3. please provide experimental details

4. upload information (pubmed ID) for publictions, if available



you can add gene expression patterns performed on microinjected, drug treated embryos etc... the only thing you have to specify first is a wild type gene expression pattern!

_adding a new experiment II -image upload-

for the image upload please follow the guidelines described above. you can upload several pictures at a time and assign the developmental stage and view in the next step.

> 1. after the picture upload, all new images will appear above the gene expression pattern ready to be assigned to a given developmental stage.

2. by clicking on the selected picture, a popup window will appear allowing you to enter information about the stage and the view. you can also delete the image

3. after saving you information, the picture will appear in the gene expression pattern at the defined position.

4. to edit please click on the picture and the pop-up window will appear allowing you to modify your entries.



Not Availab

Not Avai

adding a new experiment III -expression information-

the last step to add a new experiment is to provide accurate gene expression information. this information is highly important for the functioning of various features of the database (eq. query by expression domain, automatic search for synexpression groups etc...)

> green squares indicate stage for which expression information is available. red squares indicates the absence of information. **black** squares indicate no expression for that stage. white squares indicate no data/ image for that stage.

> 1. by clicking on the stage next to the red (new entry) or green square (edit) a detailed list of gene expression domains will appear. please select the corresponding information and save you entry.

2. now the red square should be turned into green. you're done!



Adding expression data Egg (No images)

- Cleavage (No images)
- Blastula (No images)
- Early Gastrula (No images)
- Mid Gastrula (No images)
- Late Gastrula (No images)
- Pre-hatching (1 images and 2 domains)
- Post-hatching (No images)
- Tonaria larva (1 images and 1 domains)
- Agassiz (No images)
- Juvenile (No images)
- Adult (No images)

adding a new experiment IV -publishing or sharing the data-

at this point you can decide if you wish to "**publish**" your experiment (to allow all the KahiKai members to appreciate your work) or to keep it "**unpublished**".

in the latter case only you, the lab members, and the website administrators are able to see your data. in order to promote interactions and communication we added a feature allowing you to invite members (not belonging to your lab) to share selected expression pattern experiments. to do so you have to create a group (in your settings), define it as a **lab-project** and then invite all the persons you wish to join this group. all **non-published** experiments (and of course **published** patterns) associated to that **lab-project group** will be visible to the group members.





we hope that you will enjoy using the database!

if you have any suggestions about how we can improve this gene expression database or if you have any concerns regarding this project, please feel free to contact us any time.

> m. ormestad & e. roettinger mattias@kahikai.com eric@kahikai.com

January 2009 © 2008-2009 m.ormestad/e.roettinger