

FaceBase Management and Coordination Hub

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YEAR FOUR HIGHLIGHTS

Statistics

- 430 Registered users (127 registered in the past 12 months)
- 6317 visits (FEB2012 – FEB 2013)
- Average of viewing 5 pages per visit
- 102 different academic and/or research institutes
- 98 Countries

Data Status

	Investigators	File Type(s)	Number of Datasets	Total:
Data Received & Not Posted	Hallgrimsson, Benedikt	.obj	1	6
	Potter, Steve	.cel	3	
	Ruffins, Seth	.jpg, .tif	1	
	Sanchez, Pedro	microCT	1	
Data Awaiting Approval	Beaty, Terri	.map, .ped	1	28
	Potter, Steve	Gene expression microarray & RNA-Seq	20	
	Sanchez, Pedro	microCT	7	
Total Datasets Posted	Batzel, Peter	.fq	3	264
	Chai, Yang	microarray	6	
	David Clouthier	miRNA	1	
	Hallgrimsson, Benedikt	.aim, .txt, .hx	37	
	Pelikan, Richard	.cel	10	
	Postlethwait, John	miRNA .xls	2	
	Potter, Steve	microarray .cel	11	
	Ruffins, Seth	.nii, .xls, .jpg	41	
	Sanchez, Pedro	microCT	99	
	Shapiro, Linda	.model, .dcm	2	
	Visel, Axel	.xls, .pdf; .pdf, .avi, .tgz, .txt	51	
	Weinberg, Seth	3DMD	1	

Data Quality

- Data curation process and procedures
- Data quality verification check
 - Data Curator verified 100% of the submitted data set
 - Corrected the tagged data
 - Contacted Spoke PIs
- Monthly data status report reviewed with NIDCR

Hub processes/procedures

- New virtual development environments for developers to program and test
- Revamped bug tracking and testing
- Seven major releases throughout year 4

Year 4 Highlights: Spoke Specific

Update to 3D Normative Database

Generalized 3D module

Applicable to any 3D facial
image data

FishFace enhancements

Fishface enhancements

<https://www.facebase.org/fishface/home>

The palatoquadrate: associated bones and articulations

FaceBase

USERNAME OR E-MAIL: _____ PASSWORD: _____ LOG IN

Create new account Request new password

About - Data - Tools - Resources - Community - Publications - Biorepository


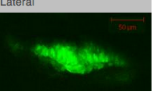
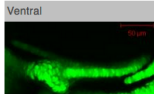
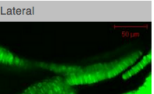
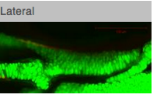
Search FaceBase: _____

YOU ARE HERE: Home > The palatoquadrate: associated bones and articulations

The palatoquadrate: associated bones and articulations

FishFace Home | The Atlas | Skull Anatomy | Arch 1 & 2 Development | Element Development

This series of images from late embryonic stages—2 days post-fertilization (dpf)—to late larval stages—21 dpf—shows the appearance, overall anatomical arrangements, and gross morphology of cartilage and bone elements of the dorsal jaw skeleton (Arch 1) of the developing zebrafish craniofacial apparatus. We use the *zsf17g* transgenic zebrafish, with fluorescent chondrocytes, to visualize cartilage and Alizarin red to visualize bone. Images are taken from both ventral (with lateral to top) and lateral views.

Info	Image	Description
Click linked text in this column to see full page image(s)	Please hold mouse over images to see annotations. Click on magnifying icon to view large image.	Click on an underlined term to see its definition and link to related pages
2 dpf <i>zsf17g</i>	 Lateral  Movie(s): 2 dpf lateral movie	By 51 hpf, the palatoquadrate (pq) consists of a condensation of chondrogenic cells that is difficult to distinguish along its anterior aspect from the posterior portion of Meckel's cartilage (Mk). Note the dimmer GFP signal in the region (*) between the palatoquadrate and Meckel's cartilage. No Alcian blue staining of matrix is observed in these developing cartilages at this stage (data not shown).
3 dpf <i>zsf17g</i> Alizarin red	 Lateral  Movie(s): 3 dpf ventral movie 3 dpf lateral movie	By 72 hpf, the palatoquadrate (pq) has increased in size and cell number from that seen at 51 hpf. The palatoquadrate now can be discerned more easily from Meckel's cartilage (Mk) in its anterior articulation and articulates considerably with the hyosymplectic (hs) posteriorly. Alcian blue staining of matrix is observed in these developing cartilages at this stage (data not shown). The pterygoid process (ptp) of the palatoquadrate can be seen growing dorsomedially from the main body to approximate the ethmoid (e) of the neurocranium. A more ventral view demonstrates that, similar to the pterygoid process, the main body of the palatoquadrate is approximately one cell layer thick.
4 dpf <i>zsf17g</i> Alizarin red	 Movie(s): 4 dpf lateral movie	By 104 hpf, the palatoquadrate (pq) has grown considerably from that seen at 72 hpf. The palatoquadrate now can be discerned completely from Meckel's cartilage (Mk) at its anterior articulation and articulates with the hyosymplectic (hs) posteriorly. The pterygoid process (ptp) of the palatoquadrate articulates with the ethmoid (e) of the neurocranium. Also visible is the entopterygoid (en), which initiates in the dermis alongside the medial aspect of the pterygoid process.
6 dpf		By 146 hpf, the palatoquadrate (pq) has



Year 4 Highlights: Spoke Specific (continued)

Linking Genome Browser to datasets

Enhancer datasets update

Jackson Labs

Cre driver project

Status and strain updates

Biorepository page enhancements

JAX Cre Driver Project

YOU ARE HERE: [Home](#) » [JAX Cre Driver Project](#)

JAX Cre Driver Project

[View](#)

[Edit](#)

[Node export](#)

The overall goal of the FaceBase Cre driver program is to generate a set of novel mouse tool strains to facilitate genetic analysis of the developing midface and palate. The current set of strains under development target structures and cell populations that are not effectively covered by the existing repertoire of cre strains available to the public. Current progress towards the release of these strains is indicated in the table, with links provided to a description of the strain, characterization data and All strains will be distributed by the [JAX Repository](#). If you have any comments, questions or suggestions contact [Steve Murray](#).

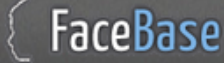
Additional JAX resources

- [Other FaceBase tool strains at JAX](#)
- [All Cre strains at JAX](#)
- [JAX Cre strain characterization](#)
- [Other FaceBase Repository mouse models](#)

BAC Transgenics

Project	Driver (gene/enhancer)	Allele Type	Construct Complete?	Injection?	Founders?	Characterization?	Available?
dNp63CreERT2_2ACerulean	Trp63	BAC Tg	Yes	Yes	Yes	In Progress	In Progress
dNp63Cre_2ACerulean	Trp63	BAC Tg	Yes	Yes	Yes	Yes	Yes
Founder 3428			Yes	Yes	Yes	Yes	Yes
Founder 3430			Yes	Yes	Yes	Yes	Yes

Biorepository

Hello, Harry Hochheiser Log out

[About](#) [Data](#) [Tools](#) [Resources](#) [Community](#) [Publications](#) [Biorepository](#)

YOU ARE HERE: [Home](#) » [Biorepository](#)

Biorepository

The FaceBase Biorepository is currently collecting biological samples from individuals with craniofacial disorders or defects along with their family members.

Information for Prospective Cases: Clefts of the lip and/or palate can be caused by a wide range of genetic, environmental and other factors. The FaceBase Biorepository will serve as a common source of both biological samples and information that can be made available to investigators trying to determine the underlying cause of these common birth defects. Genetic studies, in particular, will benefit from both family history information and having samples from affected individuals as well as their family members. DNA is the information containing molecules found in all the cells of our body and can be easily obtained from material such as blood or saliva samples. As part of the FaceBase Biorepository, we are requesting families to submit biological samples from specific family members as well as information from other family members that might be affected with either the same condition or a similar condition. The medical and family history information that is collected includes other relevant information such as exposure to possible environmental causes during pregnancy.

The biorepository is managed by Nichole Nidey, a research study coordinator, and Jeff Murray, a pediatric clinical geneticist and researcher. They are available to speak with family members regarding questions they may have, including providing information about the biorepository and making arrangements for the collection of samples for those who wish to participate. All participation is voluntary. Your name or other personally identifiable information (name, address, etc) will be removed before information is placed in the biorepository. Summary data to show how the database itself has been used overall as well as updates on whether specific findings might have been made using this database will be available on the FaceBase website at www.facebase.org. A newsletter containing this information will also be given to families and referring clinicians so that they may discuss the specifics with the families if there appears to be information that might be relevant in a particular case. Families will also need to sign a consent form that has been approved by the Institutional Review Board at the University of Iowa. Also, any submitted samples or data can also be removed from the database at any time should the family no longer wish to participate.

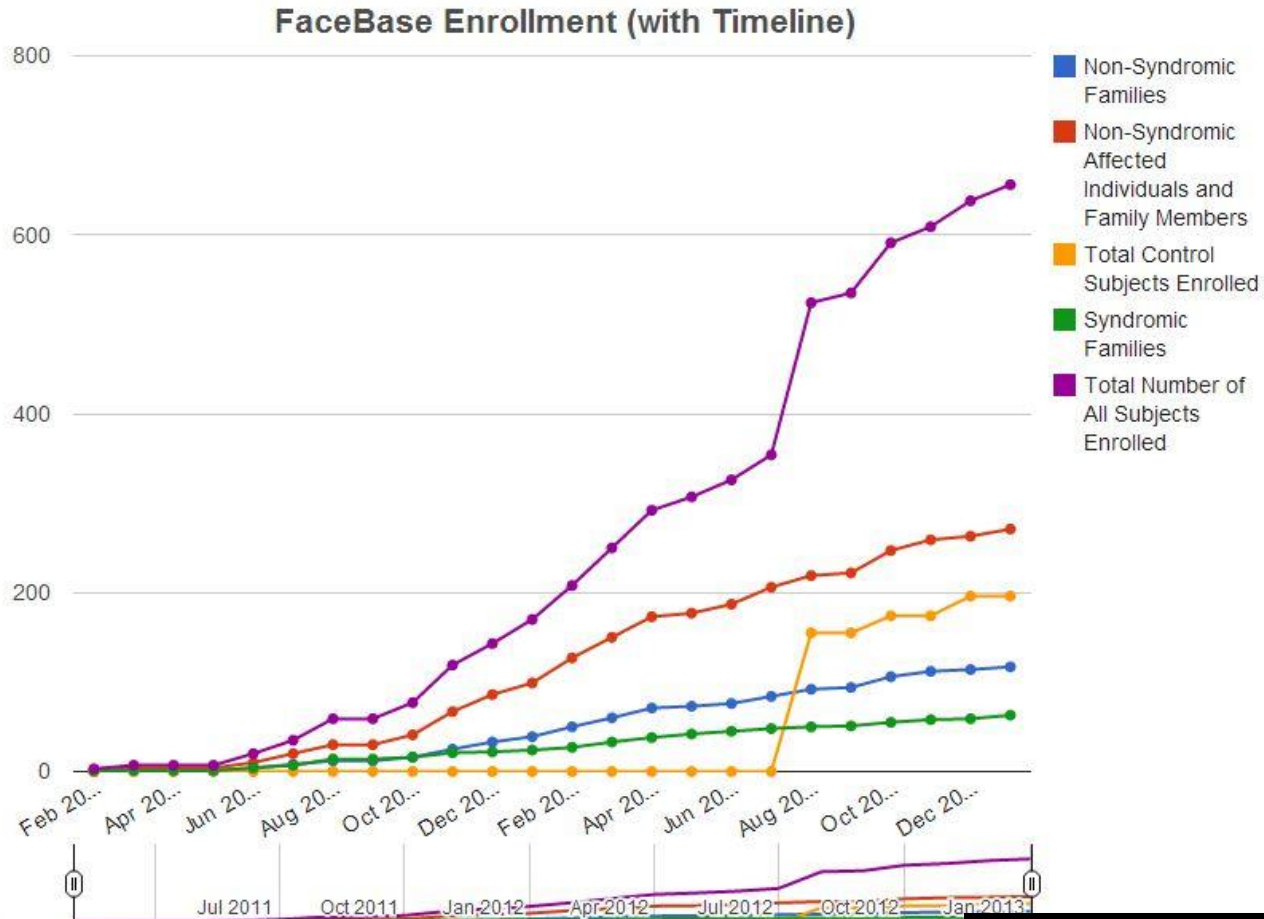
Investigators interested in requesting DNA samples or for more information, please contact cleftresearch@uiowa.edu, Nichole Nidey, nichole-nidey@uiowa.edu or (319) 353-4365, or Jeff Murray, jeff-murray@uiowa.edu.

Select the data you would like to view below:

- [Syndromes and Disorders](#)
- [Enrollment Categories](#)
- [New Enrollment](#)

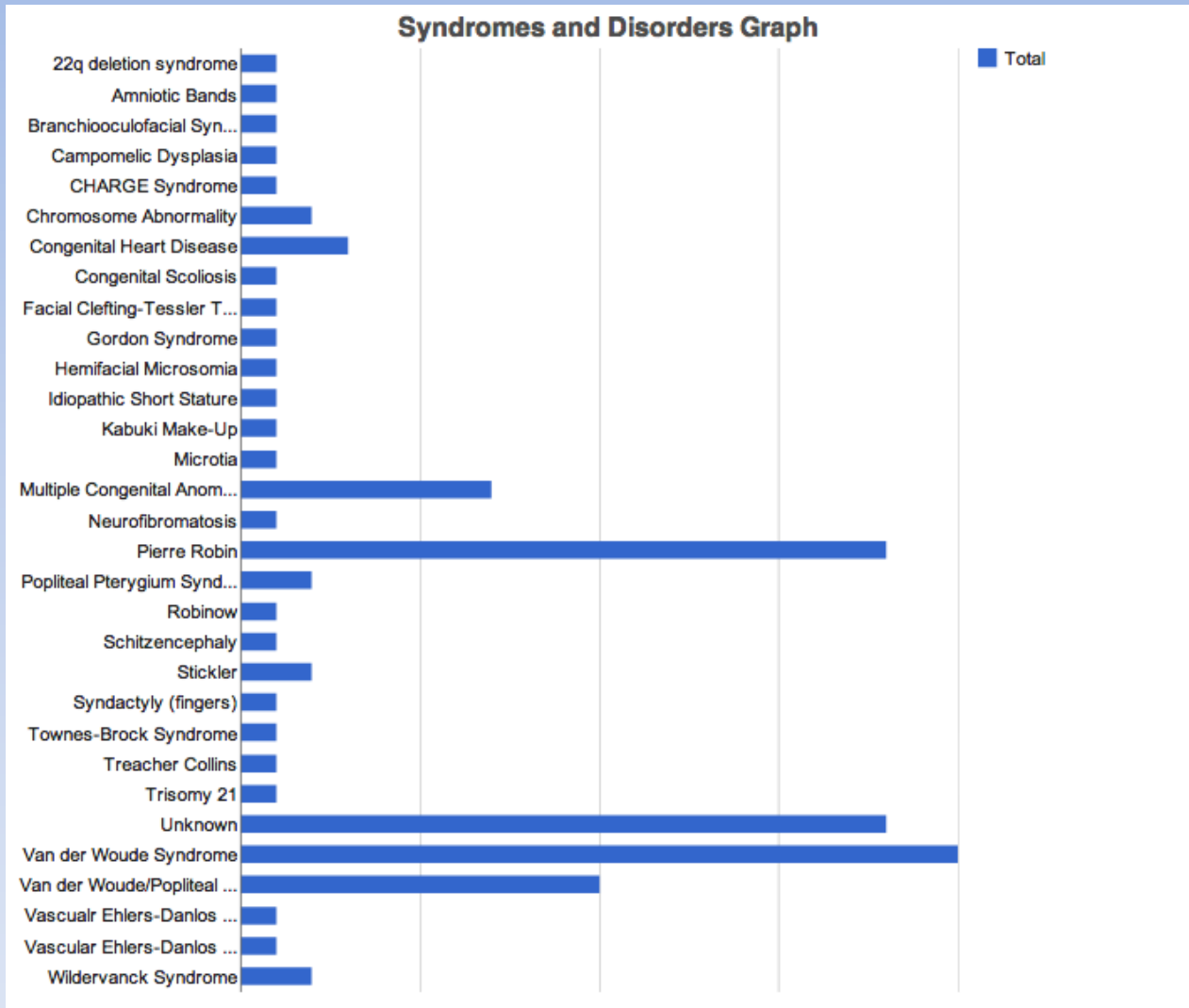
View descriptions of the data categories [here](#)

Biorepository Enrollment



New Enrollment

Syndromes and Disorders Graph



Year 4 Highlights:

Viewer/Data Curation Improvements

OPT Viewer

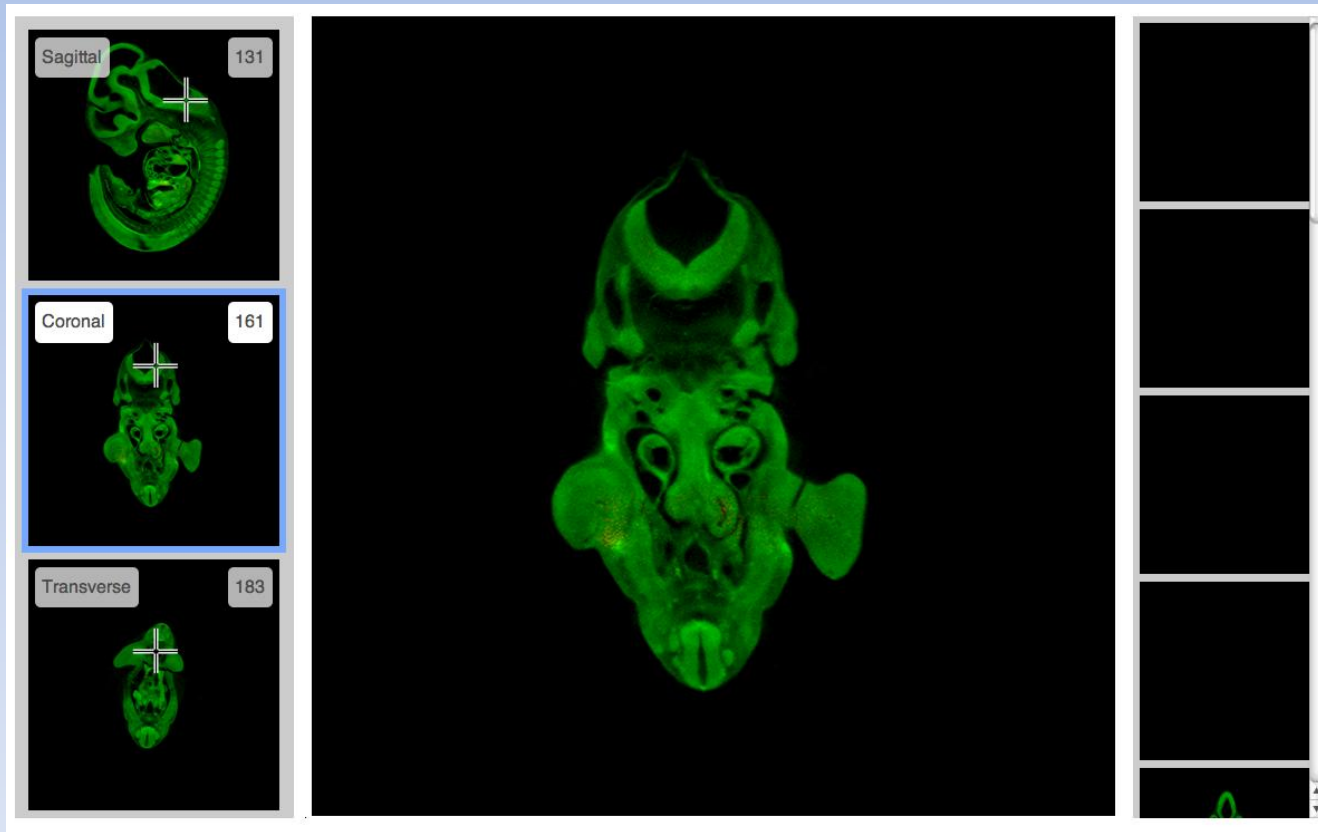
Dataset versioning

Email notification

Interactive OPT Viewer

Satya, et al. CMU

- Active for all OPT datasets



Year 4 Highlights: Data Integration

- Gene research pages and updates
 - Requested and outlined at last annual meeting
- Timeline search

Research Highlight Pages

- Curated summaries of specific genes
 - Images, links, etc.
- Summaries and full pages
- Link to related datasets
- Many thanks to Yang's group
 - Production of images and content
 - Curation

Research Highlight Summary

The screenshot shows the FaceBase website interface. At the top, there is a navigation bar with the FaceBase logo, a search bar, and a login section with fields for 'USERNAME OR E-MAIL' and 'PASSWORD', and a 'LOG IN' button. Below the navigation bar, there are dropdown menus for 'About', 'Data', 'Tools', 'Resources', 'Community', 'Publications', and 'Biorepository'. The main content area is divided into several sections:

- Header:** 'A Resource For Craniofacial Researchers' with a sub-header 'The FaceBase Consortium consists of 11 projects, including the FaceBase Management and Coordination Hub. The hub will provide a web portal that will enhance research opportunities, connect investigators, and provide tools that will aid in craniofacial research.'
- NEWS & EVENTS:** A news item dated 'JAN 29 2013' titled '2013 FaceBase annual meeting to be held in Iowa City'.
- DATA:** Three categories: 'HUMAN' (with a 3D model of a human face), 'MOUSE' (with a 3D model of a mouse face), and 'ZEBRAFISH' (with a fluorescence microscopy image of a zebrafish embryo).
- RESEARCH HIGHLIGHT:** A section for the gene **Msx1**, with associated genes **Tgfb2** and **Irf6**. It features a diagram of a developing palate with regions labeled 'N', 'Pr', 'Di', and 'O'. The 'Pr' region is highlighted in red. To the right of the diagram, the text reads: 'Gene: Msx1', 'Description: Msx1 is expressed in the mesenchyme of the anterior region of the developing palate, in both nasal and oral sides', and 'Genome Browser Links: Msx1 homeobox, msh-like 1 [Mus musculus] MSX1 msh homeobox 1 [Homo sapiens] msh homeobox 1 MSX1 wikipedia Eurexpress'. A 'More Details' link is also present.
- WHAT'S NEW:** A list of recent updates: 'FishFace' (An atlas of zebrafish craniofacial development), 'OCDM' (Ontology of Craniofacial Development and Malformation), '3D Facial Norms Database' (Normative facial images), 'CranioGUI' (An interactive tool for the analysis of 3d facial images), and 'Optical Projection Tomography Viewer' (This tool allows you to view optical projection tomography(OPT) images).

A red oval highlights the 'RESEARCH HIGHLIGHT' section for the **Msx1** gene.

Research Highlight: Search Results

YOU ARE HERE: [Home](#) » [Search](#) » [Site](#) » [Msx1](#) » Search

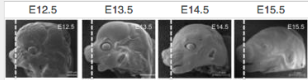
Search

Msx1

Msx1 RESEARCH PAGE

Description:
Msx1 is expressed in the mesenchyme of the anterior region of the developing palate, in both nasal and oral sides

Genome Browser Links:
[mm9](#), [mm10](#), [hg18](#), [hg19](#)



Projects:

- Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate

External Links:

- [Msx1 homeobox, msh-like 1 \[Mus musculus \]](#)
- [MSX1 msh homeobox 1 \[Homo sapiens \]](#)
- [msh homeobox 1](#)
- [MSX1 wikipedia](#)
- [Eurexpress](#)

Color code:

- All mesenchyme (ON axis)
- Anterior mesenchyme (AP axis)

Association of MSX1 and TGFB3 with nonsyndromic clefting in humans. PUBLICATION
however, several rare variants of **MSX1** and **TGFB3** were found that may alter the latter's normal function. These results form the basis for future research, including (a) mutation searches in the **MSX1** ...
FaceBase Administrator - 2011/05/13 - 3:43pm - - 0 comments

MSX1 mutation is associated with orofacial clefting and tooth agenesis in humans. PUBLICATION
Mutational Analysis Female Heterozygote Homeodomain Proteins Humans **MSX1** ...
FaceBase Administrator - 2011/05/13 - 3:45pm - - 0 comments

Contribution of MSX1 variants to the risk of non-syndromic cleft lip and palate in a Malay population. PUBLICATION
was found in the transmission disequilibrium analysis for either **MSX1-CA** or **TGFB3-CA** intragenic markers, whereas **TGFB3-CA** exhibited a trend to excess maternal transmission. In sequencing the **MSX1** coding regions ...
Linda M. Schmandt - 2011/09/01 - 4:53pm - - 0 comments

microCT -- Soft Tissue of Msx1 at E14.5 DATASET
Msx1(tm1Rilim)-- Msx1+- ...
PROJECT: Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate
Pedro A. Sanchez - 2012/05/31 - 4:53pm - 0 comments

microCT -- Bone Tissue of Msx1 Control at E17.5 DATASET
Msx1(tm1Rilim)++ Msx1++ ...
PROJECT: Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate
Pedro A. Sanchez - 2012/05/31 - 4:53pm - 0 comments

CONTENT TYPE

- [Dataset \(21\)](#)
- [Jackson Labs Strain \(3\)](#)
- [Publication \(9\)](#)
- [Project \(1\)](#)
- [Research Page \(1\)](#)

ORGANISM

EXPERIMENT/DATA TYPE

GENE OR GENE LOCUS

GENETIC BACKGROUND

GENOTYPE

MESH TERMS

MUTATION

DEVELOPMENTAL AGE/STAGE

ANATOMIC SOURCE

Research Highlight Details

YOU ARE HERE: [Home](#) » [Msx1](#)

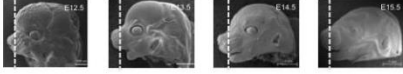
Msx1

GENE NAME
Msx1









DESCRIPTION
Msx1 is expressed in the mesenchyme of the anterior region of the developing palate, in both nasal and oral sides

Genome Browser Links:
[mm9](#), [mm10](#), [hg18](#), [hg19](#)

E12.5 E13.5 E14.5 E15.5



GENE EXPRESSION IN THE SECONDARY PALATE

	E12.5	E13.5	E14.5	E15.5
Coronal				
Intraoral				

N: nasal Pr: proximal Di: distal O: oral

Color code:
■ All mesenchyme (ON axis)
■ Anterior mesenchyme (AP axis)

EXTERNAL LINKS
[Msx1 homeobox, msh-like 1 \[Mus musculus \]](#)
[MSX1 msh homeobox 1 \[Homo sapiens \]](#)
[msh homeobox 1](#)
[MSX1 wikipedia](#)
[Eurexpress](#)

PROJECTS
[Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)

DATASETS

- microMRI images of skulls of Msx1^{-/-} mice at E18.5
- Transgenic Mouse Enhancer Assay – mCF113
- Transgenic Mouse Enhancer Assay – mCF115
- microMRI images of skulls of Msx1^{-/-} mice at E13.5
- Transgenic Mouse Enhancer Assay – mCF112
- Transgenic Mouse Enhancer Assay – mCF114
- Transgenic Mouse Enhancer Assay – mCF77
- microCT – Soft Tissue of Msx1 at E14.5
- microCT – Bone Tissue of Msx1 Control at E17.5
- microCT – Bone Tissue of Msx1 Control at E18.5

JAX MOUSE STRAINS

- B6.129S1-Osr2 /J
- STOCK Tg(Wnt1-cre)11Rth Tg(Wnt1-GAL4)11Rth/J
- STOCK Shh /J

Timeline View

<https://www.facebase.org/timeline>

- Graphical view of datasets by developmental stage
- Approximate alignment of time points
- Navigate and filter results by time point

YOU ARE HERE: [Home](#) » [Developmental Timeline Data View](#)

Developmental Timeline Data View

Enter Search Term:

Legend: ■ Zebrafish ■ Mouse ■ Human

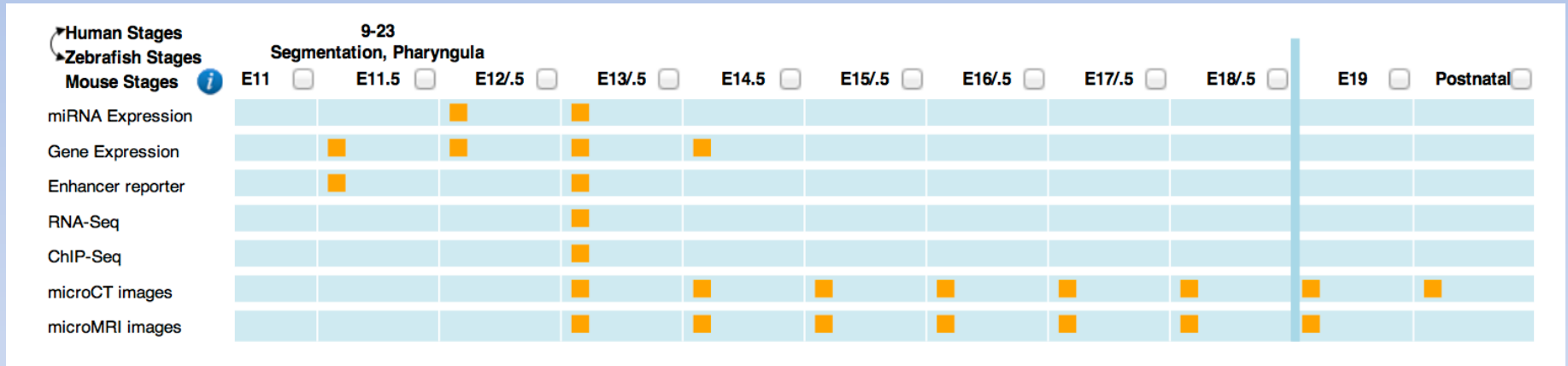
	9-21 Segmentation, Pharyngula											
*Human Stages	E11	E11.5	E12.5	E13.5	E14.5	E15.5	E16.5	E17.5	E18.5	E19	Postnatal	
Mouse Stages												
miRNA Expression												
Gene Expression												
Enhancer reporter												
RNA-Seq												
ChIP-Seq												
microCT images												
microMRI images												

237 datasets found.

- microCT - Skull bones of CTGF +/- control mouse at P0** DATASET
This dataset contains microCT scans of skull bones of 10 control mice at P0. The scan is in NIFTI format, which can be read by a number of free software applications including those listed below. To receive the scans in DICOM format, please email data@facebase.org. The following PROJECT: [Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)
[Pedro A. Sanchez](#)
- microCT – Head soft tissue of CTGF control mouse at P0** DATASET
PROJECT: [Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)
[Pedro A. Sanchez](#)
- microCT – Head soft tissue of CTGF knockout mouse at P0** DATASET
PROJECT: [Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)
[Pedro A. Sanchez](#)
- microCT – Skull of K14 Cre TGFBR2fl/fl mouse at P0** DATASET
This dataset includes a microCT scan of the skull of a K14 Cre TGFBR2fl/fl mouse at stage P0. The scan is in NIFTI format, which can be read by a number of free software applications including those listed below. To receive the scans in DICOM format, please email data@facebase.org. PROJECT: [Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)
[Pedro A. Sanchez](#)
- microCT – Skull of K14 Cre TGFBR2fl/fl mouse at E18.5** DATASET
This dataset includes a microCT scan of the skull of a K14 Cre TGFBR2fl/fl mouse at stage E18.5. The scan is in NIFTI format, which can be read by a number of free software applications including those listed below. To receive the scans in DICOM format, please email data@facebase.org. PROJECT: [Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)
[Pedro A. Sanchez](#)
- microCT – Head soft tissue of K14 Cre TGFBR2fl/fl mouse at E18.5** DATASET
PROJECT: [Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)
[Pedro A. Sanchez](#)
- microCT - Skull bones of Tgfb2fl/fl mouse at P0** DATASET
This dataset contains a microCT scan of the skull bones of a TGFBR2 mouse at P0. The scan is in NIFTI format, which can be read by a number of free software applications including those listed below. To receive the scans in DICOM format, please email data@facebase.org. The following PROJECT: [Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)
[Pedro A. Sanchez](#)
- microCT - Skull bones of TGFBR2fl/fl mouse at E18.5** DATASET
This dataset contains microCT scans of skull bones of 3 mice at stage E18.5. The scan is in NIFTI format, which can be read by a number of free software applications including those listed below. To receive the scans in DICOM format, please email data@facebase.org. The following PROJECT: [Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)
[Pedro A. Sanchez](#)
- microCT – Head soft tissue of Tgfb2fl/fl mice at E18.5** DATASET
PROJECT: [Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)
[Pedro A. Sanchez](#)
- microCT – Head soft tissue of wildtype C57BL/6J mice at E18.5** DATASET
PROJECT: [Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate](#)
[Pedro A. Sanchez](#)

1 2 3 4 5 6 7 8 next >>

Timeline view - closeup



Timeline View – filter by developmental stage

YOU ARE HERE: [Home](#) » [Developmental Timeline Data View](#)

Developmental Timeline Data View

Enter Search Term:

Legend: ■ Zebrafish ■ Mouse ■ Human

Human Stages: 9-21
Zebrafish Stages: E11 E11.5 E12.5 E13.5 E14.5 E15.5 E16.5 E17.5 E18.5 E19 Postnatal


Mouse Stages: E11 E11.5 E12.5 E13.5 E14.5 E15.5 E16.5 E17.5 E18.5 E19 Postnatal

Category	E11	E11.5	E12.5	E13.5	E14.5	E15.5	E16.5	E17.5	E18.5	E19	Postnatal
miRNA Expression											
Gene Expression											
Enhancer reporter											
RNA-Seq											
ChIP-Seq											
microCT images											
microMRI images											

24 datasets found.

- Gene expression profiling of the mandible in mice with a conditional inactivation of Erk2 at embryonic day E12.5** DATASET
PROJECT: Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate
Richard C Polkan
- What miRNAs are expressed in the E12.5 mouse midfacial tissue?** DATASET
PROJECT: Identification of miRNAs Involved in Midfacial Development and Clefting
Peter Batzel
- microCT – Soft Tissue of C57BL/6J mouse at E13.5** DATASET
The scan is in NIFTI format, which can be read by a number of free software applications including those listed below. To receive the scan in DICOM format, please email help@facebase.org.
PROJECT: Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate
Pedro A. Sanchez
- microCT – Soft Tissue of C57BL6J at E13.5** DATASET
The scan is in NIFTI format, which can be read by a number of free software applications including those listed below. To receive the scan in DICOM format, please email help@facebase.org.
PROJECT: Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate
Pedro A. Sanchez
- Gene expression profiling of the tongue bud in mice with a conditional inactivation of Alk5 at embryonic day E13.5** DATASET
PROJECT: Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate
Yang Chai
- Gene expression profiling of the palate in mice with a conditional inactivation of Erk2 at embryonic day E13.5** DATASET
PROJECT: Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate
Richard C Polkan
- Gene expression profiling of the palate in mice with a conditional inactivation of Alk5 at embryonic day E13.5** DATASET
PROJECT: Research on Functional Genomics, Image Analysis and Rescue of Cleft Palate
Richard C Polkan
- Transgenic Mouse Enhancer Assay – mCF131** DATASET
PROJECT: Genome-Wide Atlas of Craniofacial Transcriptional Enhancers
Axel Visel
- Transgenic Mouse Enhancer Assay – mCF134** DATASET
PROJECT: Genome-Wide Atlas of Craniofacial Transcriptional Enhancers
Axel Visel
- microMRI images of skulls of Ctgf+/+ mice at E13.5** DATASET
PROJECT: Functional Analysis of Neural Crest and Palate: Imaging Craniofacial Development
Seth W Ruffins

1 2 3



Year 4 Highlights:

General Site Enhancements

Annual meeting pages

Terms of use and data use certification

Statistics page

Cleft gallery

Working group pages

Administration views

Drupal updates

Site menu organization

Home page redesign

Data status log

YEAR FIVE PLANS

Year 5 Goals

- Final data uploads from spokes (by summer)
 - Continue data QC initiatives
 - Incorporate OCDM concepts
- Data integration
 - Finish year 4 projects
 - New modules (afternoon session)
- Develop analysis tools
 - Human data
 - Spoke specific
- Substantially increase the cases and data available through the Biorepository
- General site enhancement

Development Goals

- Data integration based on both metadata and analytic results
- Drill-down tools for extraction of individual files from within datasets
- Integration of OCDM for data annotation
- Deployment of fully functional IIP/Woolz
- Project-specific data displays

DATA

Data goals

- Upload remaining spoke data
- Continue to work with the PIs on improving data presentation
- Continue to update data process and supporting procedures: the ones focused on quality include:
 - Implement scientific quality assurance validation of 5% of the submitted data sets
 - Implement the standardized quality control verification procedure
- Incorporate non-FaceBase generated data on www.facebase.org

Data Quality Plans

- Data entry, approval, versioning, and deprecating procedures posted
- Quality control data curator verification of 100% of the submitted / approved
- Quality assurance scientific data validation of 5% of the approved data
- Continue to define and follow documented process and procedures
- Contact users for user experience improvements

DATA INTEGRATION

Towards a vision of meaningful integration

- Visualize the database network.
- Stimulate thoughts about scientific questions.
- “Gap analysis”:
 - Find fruitful questions & hypotheses.
 - What gaps in the database network should be filled, to maximize the # of important questions made answerable?

Comparisons/Integration

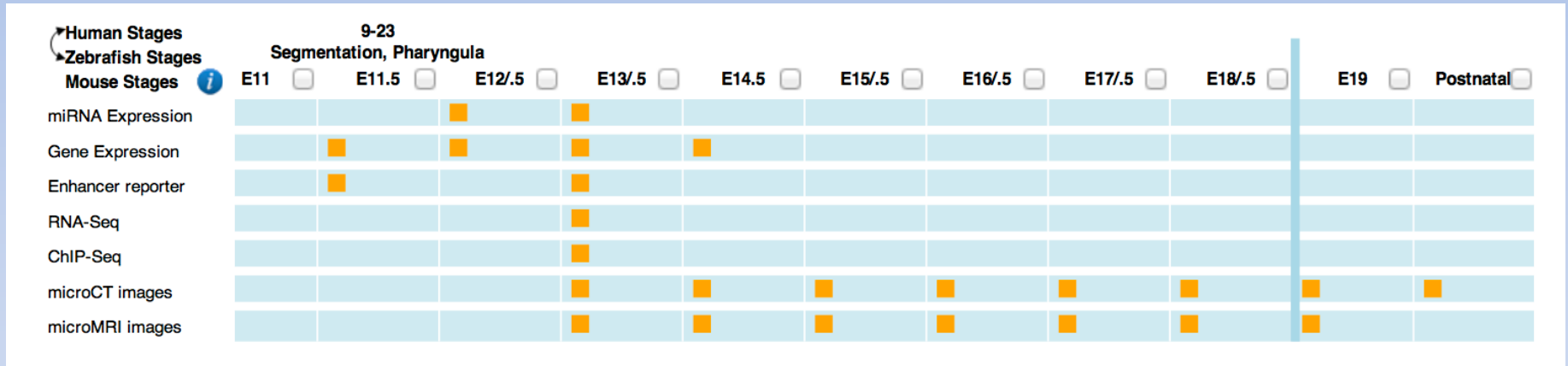
- Goal: focus on inter-spoke integration

Comparison type	Mapping type	Resource (examples)
Time to time	Anatomic site	Imaging Expression Data
Location to location	Adjacency	Ontology-dependent
Species to species	Anatomic site	Ontology-dependent
	Genetic homology	HomoloGene
	Developmental stage	Carnegie Stage
Platform to platform	Semantic identifier map	DAVID, Enfin, ...

Data Integration

- CoGENE data incorporated into timeline view
 - Microarray data Presentation
 - Customized dataset across projects
 - Gene WIKI
-
- AFTERNOON SESSION

Timeline view - closeup



CoGENE dataset

- “Craniofacial and Oral Gene Expression Network”
 - Mike Lovett et al, web site formerly at Wash U
- Expression data generated with Affymetrix U95A and U95Av2 chips
- Data available on 17 different tissue types across several different embryological stages, as well as whole embryos from two stages - at least two replicates per tissue/stage
- Probe ids mapped to hg19 RefSeq genes to enable integration with other data sets

CoGENE Data – Human Craniofacial Development (M. Lovett)

Tissue/Timepoint	26 days (E10-10.5)	4 weeks (E10.5)	5 weeks (E11.5)	6 weeks (E13)	8.5 weeks (E16)
1st pharyngeal arch		█			
2nd pharyngeal arch		█			
3rd (& 4th) pharyngeal arch		█			
anterior rhombomere		█			
anterior tongue					█
dental lamina					█
frontal nasal prominence		█			
lateral nasal prominence				█	
lower lip					█
mandible				█	█
maxilla				█	
medial nasal prominence				█	
palatal shelf					█
posterior rhombomere		█			
posterior tongue					█
salivary gland					█
upper lip					█
whole embryo	█				

DATA SOFTWARE TOOLS

Spoke/Project Specific

- Gene mapping, sequencing
 - GWAS
 - PLINK, PSEQ
- MicroFace

Human Genomics Data

- Sequencing, GWAS
- dbGaP is the repository for individual-level data
- FaceBase will have a copy of the data (will not distribute data)
 - Develop analytical tools to do initial data mining analyses (simple stats, plus PLINK, PSEQ, etc) that can be implemented through web site—only results returned
 - User can then chose to request individual level data from dbGaP

Viewers / Data Search Improvements

- Mouse image search module
- IIP3D Woolz Viewer
 - technical issues with file translation
- Side by side viewer comparison (Woolz and OPT)
- Image driven search and navigation
 - Annotated image for navigation

Mouse Image Module

The screenshot shows the FaceBase website's Mouse Image Search page. At the top, the FaceBase logo is on the left, and a navigation menu with links for About, Data, Tools, Resources, Community, Publications, and Biorepository is in the center. A search bar is on the right. Below the navigation, a breadcrumb trail reads 'YOU ARE HERE: Home » Mouse Image Search'. The main heading is 'Mouse Image Search'. A text block explains that the page allows searching for 3D mouse image data based on four criteria: Developmental Stage, Mutation, Genotype, and Image Type. Each criterion has a dropdown menu currently set to '- Select -'. A 'SEARCH' button is located at the bottom left of the search area.

FaceBase

About ▾ Data ▾ Tools ▾ Resources ▾ Community ▾ Publications Biorepository

Search FaceBase...

YOU ARE HERE: Home » Mouse Image Search

Mouse Image Search

This page allows you to search for 3d mouse image data, you can select images based on chosen criteria and select from the 4 criteria below to find mice specimen of interest. You currently can select only one of each field. This search will return all mice that have the characteristics you are searching for, you then are able to select individual mice NiFTI images and download them. DICOM format are also available, though not through download, contact The FaceBase Data Curator for more information about how to obtain those files. For information on the developmental stages you can view [Mouse Terminology and Anatomy](#).

Select Developmental Stage * Select Mutation * Select Genotype * Select Image Type *

- Select - ▾ - Select - ▾ - Select - ▾ - Select - ▾

SEARCH

Mouse image search results

FaceBase

About ▾ Data ▾ Tools ▾ Resources ▾ Community ▾ Publications Biorepository

YOU ARE HERE: Home » Mouse Image Search Results

Mouse Image Search Results

4 mice have been returned that meet your search criteria.

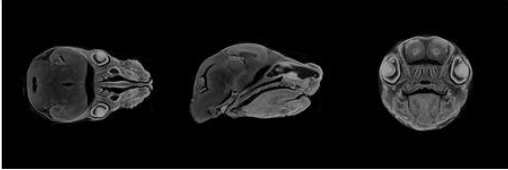
This page displays the number of results your search has obtained. You can click on the images to see them closer. You can also select checkboxes to choose multiple replicate specimen to download. With a checkbox selected, if you hit the "Download Selected" button the website will begin packaging and distributing your download.

Note: Due to the size of the files (each NIFTI is about 500MB in size), the downloads packaging and downloading will take some time (upwards of 10 minutes). Because of this you are restricted to 4 files at maximum. Also it takes some time to build the package, so you will receive an email with a download link whenever your files are finished. This link will expire after a week.

Developmental Stage	Image Type	Genotype	Mutation
p0	Tissue	fff	Smad4(tm1Cxd)fff

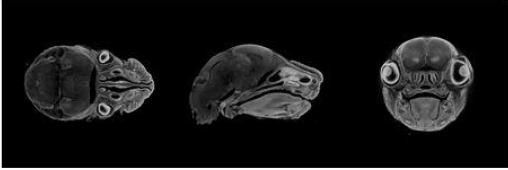
DOWNLOAD SELECTED

Mouse Number	JF266CCMB
Genetic Background	Mixed
Mutation	Smad4(tm1Cxd)fff
Genotype	Smad4fff
Litter	YC5149_20120919
Strain	Mixed (129X1Sw x 129S1Sv)F1-Kitt+;129S6SvEvTac



Select this mouse

Mouse Number	JF267CCMB
Genetic Background	Mixed
Mutation	Smad4(tm1Cxd)fff
Genotype	Smad4fff
Litter	YC5149_20120920



Side by side viewer

YOU ARE HERE: [Home](#) » Woolz IIP3D Viewer

Woolz IIP3D Viewer

FaceBase FB00000169 FaceBase FB00000169_opt

Control panels for both models include:

- Rotation sliders: $\alpha: 90$, $\nu: 0$, $\gamma: 90$
- Distance slider: $\delta: 0$
- Magnification slider: magnification: 1:1
- View buttons: Trans, Sagit, Front, Fx Pt
- reload image button
- Instruction: right-click over main image for context menu

Data Search updates

Navigation: About - Data - Tools - Resources - Community - Publications - Biorepository

Search FaceBase...

YOU ARE HERE: Home » Data » View All FB Data

View All FB Data

► ORGANISM

- Mouse (243)
- Human (3)
- Zebrafish (1)

► EXPERIMENT/DATA TYPE

► GENDER

► GENE OR GENE LOCUS

► GENETIC BACKGROUND

► RACE

► DEVELOPMENTAL AGE/STAGE

► ANATOMIC SOURCE

SEARCH Retain current filters

Gene expression microarray - mouse E10.5 maxillary arch DATASET

Gene expression microarray using tissue obtained by laser capture microdissection (LCM) from the maxillary arch of mouse embryos at E10.5. The results are also presented as tracks on the Facebase Genome Browser Mirror

PROJECT: Global Gene Expression Atlas of Craniofacial Development

Steve Potter - 2013/02/19 - 1:42pm - 0 comments

Gene expression microarray - mouse E10.5 mandibular arch DATASET

Gene expression microarray using tissue obtained by laser capture microdissection (LCM) from the mandibular arch of mouse embryos at E10.5. The results are also presented as tracks on the Facebase Genome Browser Mirror

PROJECT: Global Gene Expression Atlas of Craniofacial Development

Steve Potter - 2013/02/19 - 1:43pm - 0 comments

microCT images of adult mouse skulls, Collaborative Cross A/J x C57BL6J DATASET

...

PROJECT: Genetic Determinants of Orofacial Shape and Relationship to Cleft Lip/Palate

Benedikt Hallgrímsson - 2013/03/28 - 8:57am - 0 comments

miRNAs expressed in the 72hpf zebrafish head DATASET

110 heads were dissected from 2- and 3-day post fertilization zebrafish embryos. RNA was extracted by trizol and samples were prepped for miRNA-seq using the University of Oregon Illumina GAIIx sequencer. (20ug total RNA) The sequence read by the ...

PROJECT: Identification of miRNAs Involved in Midfacial Development and Clefting

John Harvey Postlethwaite - 2013/02/19 - 1:23pm - 0 comments

Gene expression microarray - mouse E10.5 medial-nasal process DATASET

Gene expression microarray using tissue obtained by laser capture microdissection (LCM) from the medial-nasal process of mouse embryos at E10.5. The results are also presented as tracks on the Facebase Genome Browser Mirror

PROJECT: Global Gene Expression Atlas of Craniofacial Development

Steve Potter - 2013/04/01 - 7:07am - 0 comments

Gene expression microarray - mouse E11.5 single cell from medial-nasal process DATASET

Gene expression microarray using a single cell obtained by laser capture microdissection (LCM) from the medial-nasal process of mouse embryos at E11.5. The results are also presented as tracks on the Facebase Genome Browser Mirror

PROJECT: Global Gene Expression Atlas of Craniofacial Development

Steve Potter - 2013/02/19 - 1:47pm - 0 comments

Using metadata to select related datasets

About ▾ Data ▾ Tools ▾ Resources ▾ Community ▾ Publications ▾ Biorepository

YOU ARE HERE: Home » Data » View All FB Data » Gene expression microarray - mouse E10.5 medial-nasal process

Gene expression microarray - mouse E10.5 medial-nasal process

DETAILS

ACCESSION NUMBER FB00000103

SUBMITTER
Steve Potter

May 11, 2011 - 6:50pm

DATASET ARCHIVE
1 bytes (4 datafiles)

[LOG IN TO DOWNLOAD](#)

[FaceBase Data Terms of Use](#)

Related Datasets:

Developmental Age/Stage: E10.5

- Gene expression microarray - mouse E10.5 maxillary arch
- Gene expression microarray - mouse E10.5 mandibular arch
- Gene expression microarray - mouse E10.5 medial neuroepithelium

+ Show more results

Data Type: Expression microarray - gene

- Gene expression microarray - mouse E10.5 maxillary arch
- Gene expression microarray - mouse E10.5 mandibular arch
- Gene expression microarray - mouse E11.5 single cell from medial-nasal process

+ Show more results

Anatomic Source: Medial nasal process

- Gene expression microarray - mouse E11.5 single cell from medial-nasal process

BIOREPOSITORY

Available data Types

Biological Specimens

- DNA derived from-
 - Saliva
 - Cheek Swabs
 - Tissue
 - Cord Blood
 - Blood

Data Types

- 3D facial mesh data
- Ultrasound Video Data of Orbicularis Oris Muscle
- Dermatoglyphic Lip Print Image Data
- Intraoral Image data
- Video VPI data
- Laterality data
- Medical, Pregnancy, Demographic, Psychological Measures and Familial Health History Data

Team

- Pittsburgh
 - CCDG: Cristy Spino, Tom Maher, Lance Kennelty, Justin Stickle, Sean Schellinger, Annette Krag-Jensen
 - DBMI: Harry Hochheiser, Roger Day, Chuck Borromeo, Shiyi Shen, Bill Shirey, Johnson Paul, John Milnes
 - Other Pitt: Michael Barmada (Human Genetics)
 - CMU: Mahadev Satyanarayanan
- Iowa
 - Nichole Nidey, Nancy Davin, Martine Dunnwald