

# How to search by Spatial Query

- EMAGE is used to archive and spatially map gene expression patterns from a variety of sources including, large *in situ* hybridisation screens (EurExpress, FaceBase), the GXD and the published literature as well as unpublished direct submissions from developmental biology labs.

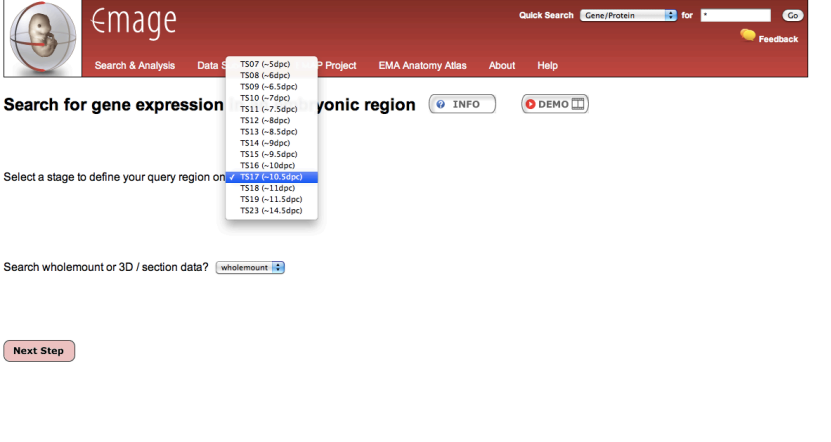
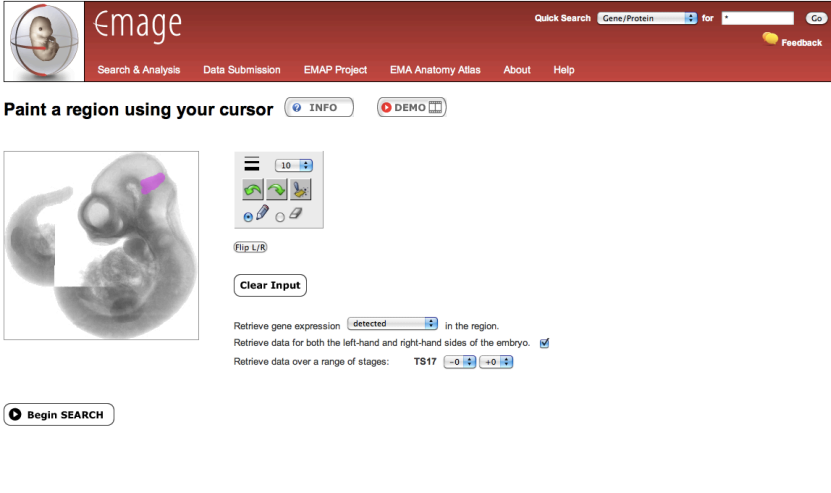
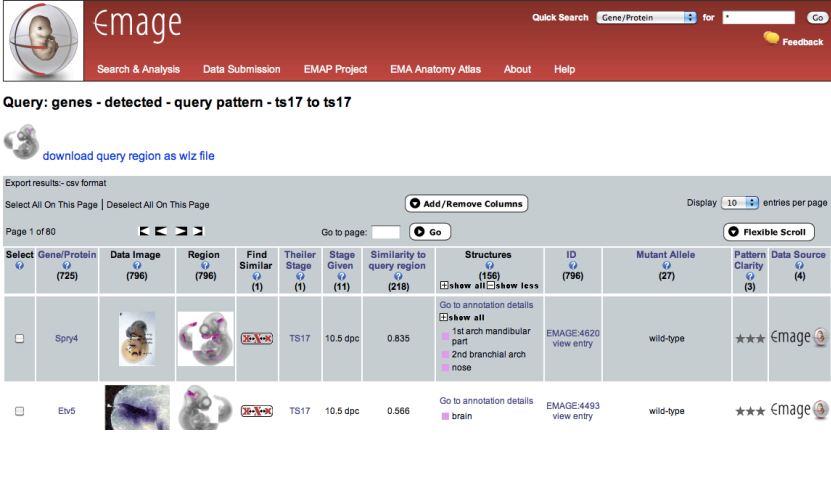
The screenshot displays the EMAGE web interface. At the top, there is a navigation bar with the EMAGE logo, a search bar for 'Gene/Protein', and a 'Feedback' button. Below the navigation bar, the main content area is divided into several sections:

- Content:** A sidebar on the left showing statistics: Genes/Proteins: 17554, Assays: 32679, Stages: 22, Images: 429329.
- What's New?:** A sidebar on the left listing recent updates: 06 Sep 2016 Clonal analysis lineage data, TRACER enhancer data, VISTA enhancer data, EMBRYOS gene expression data, and 3D OPT mapping now available.
- Spatial Search:** A central section with a sub-section for 'Embryo Space' featuring a 'SEARCH' button and a 'TS17' label.
- Query Entries:** Three categories of search filters: 'Combination' (listing genes like Wnt1, Id4, Fgf8, Tbx4), 'Gene' (listing genes like cadherin6b, Wnt1, Id4, Fgf8, Aldh1a2, Lhx6, Tbx4, Nkx6-1, T, Mx1, Collagen Type II, alpha 1, Sry), and 'Anatomy Name' (listing terms like node, mesenchyme, somite, headfold, eye, branchial arch, vagus X, otocyst, lens, midgut).
- Gene & Pathway Summaries:** A section with sub-sections for 'Gene Summary' (showing a gene structure diagram), 'Pathway' (showing a metabolic pathway diagram), and 'Gene Association' (showing a network diagram).
- Analysis Tools:** A section with sub-sections for 'Similar Patterns' (showing image thumbnails) and 'Direct Access' (showing a database icon).
- Example Data:** A sidebar on the right showing an example of 'EMAGE:148' with an image of a developing embryo, 'Assay: ISH', 'Gene: Crabp1', 'Stage: TS15', 'Spatial Annotation', and 'Source: Mark et al., 1993 [PMID:8287791]'.

**The EMAGE Web Interface**

- Gene, Anatomy, and Embryo Space queries allow the user to find gene expression patterns easily.

- For a spatial query, click on **Embryo Space** and do the following.

<p>Select a Theiler Stage</p>																																								
<p>Paint a region</p>																																								
<p>View list of entries, click on an EMAGE ID for more details</p>	 <p>Query: genes - detected - query pattern - ts17 to ts17</p> <p><a href="#">download query region as wiz file</a></p> <p>Export results:- csv format</p> <p>Select All On This Page   Deselect All On This Page</p> <p>Page 1 of 80</p> <table border="1"> <thead> <tr> <th>Select</th> <th>Gene/Protein (725)</th> <th>Data Image (796)</th> <th>Region (796)</th> <th>Find Similar (1)</th> <th>Theiler Stage (1)</th> <th>Stage Given (11)</th> <th>Similarity to query region (218)</th> <th>Structures (156)</th> <th>ID (796)</th> <th>Mutant Allele (27)</th> <th>Pattern Clarity (3)</th> <th>Data Source (4)</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td>Spry4</td> <td></td> <td></td> <td></td> <td>TS17</td> <td>10.5 dpc</td> <td>0.835</td> <td>Go to annotation details 1st arch mandibular part 2nd branchial arch nose</td> <td>EMAGE:4620 view entry</td> <td>wild-type</td> <td>☆☆☆</td> <td>Emage</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Ev5</td> <td></td> <td></td> <td></td> <td>TS17</td> <td>10.5 dpc</td> <td>0.566</td> <td>Go to annotation details brain</td> <td>EMAGE:4493 view entry</td> <td>wild-type</td> <td>☆☆☆</td> <td>Emage</td> </tr> </tbody> </table>	Select	Gene/Protein (725)	Data Image (796)	Region (796)	Find Similar (1)	Theiler Stage (1)	Stage Given (11)	Similarity to query region (218)	Structures (156)	ID (796)	Mutant Allele (27)	Pattern Clarity (3)	Data Source (4)	<input type="checkbox"/>	Spry4				TS17	10.5 dpc	0.835	Go to annotation details 1st arch mandibular part 2nd branchial arch nose	EMAGE:4620 view entry	wild-type	☆☆☆	Emage	<input type="checkbox"/>	Ev5				TS17	10.5 dpc	0.566	Go to annotation details brain	EMAGE:4493 view entry	wild-type	☆☆☆	Emage
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