

## **Module 3: Genes and Sequences**

### **iii. How can I find cDNA clones for my gene?**

#### **Aims**


- Describe curation of clones and probes at ZFIN
- Suggest starting points for finding cDNA clones and probes
- Describe how to find a source for the reagent.

#### **Introduction**

ZFIN incorporates information about full length cDNA clones from the Zebrafish Gene Collection (ZGC, <http://zgc.nci.nih.gov/>), cDNAs used in large scale in situ screens conducted by the Dawid, Talbot and Thisse laboratories as well as from cDNAs cited in the literature. These cDNA sequences are curated and associated with their encoding genes. In some cases, it is not possible to associate the cDNA with a published gene. In these cases, we create novel gene records. In addition, BAC clones used by the Sanger Institute genome sequencing project are captured in ZFIN.

#### **Finding cDNA clones**

Links to cDNA clones and probe data can be found on ZFIN gene pages. Locate this information using our Genes/Markers/Clones query form, <http://zfin.org/cgi-bin/webdriver?Mlval=aa-newmrkrselect.apg>. Search by specifying your gene of interest or accession number.



# ZFIN

Site Search:

BLAST Anatomy Publications People Labs Companies Acc #

Home Mutants / Transgenics Wild-Types Genes / Markers / Clones Expression Maps

Search for Genes / Markers / Clones

Name / Symbol:

Types: (Choose one or more)

- All
- Gene
- Pseudogene
- Morpholino
- EST
- cDNA
- BAC
- PAC
- BAC\_END
- PAC\_END
- RAPD
- SSLP
- STS

LG:

Display results in groups of

Home Email ZFIN About ZFIN Helpful Hints Citing ZFIN

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Enter gene symbol

Click on the search button or hit the "enter" key

Scroll to the **Segment (Clone and Probe) Relationship** section of the gene page.

#### SEGMENT (CLONE AND PROBE) RELATIONSHIPS:

bmp2b Contained in	[BAC] <a href="#">CH211-213I16</a> <a href="#">(order this)</a> (1)
bmp2b Encodes	[EST] <a href="#">cb670</a> <a href="#">(order this)</a> (1)
	[cDNA] <a href="#">MGC:92556</a> <a href="#">(order this)</a> (1), <a href="#">MGC:136722</a> <a href="#">(order this)</a> (1)

Click here for clone details

Click here to order clone

Click on the cb670 link to view details about this clone.

## PCR primers

ZFIN ID: ZDB-EST-030328-24

EST Name: **cb670** Your Input Welcome

**CLONE DATA:**

Species: Danio rerio

Library: oligo-dT primed shield stage

Cloning Site: Sall-EcoRI      Digest: PCR amplification      Insert Size: 2000

Vector: pSPORT      Vector Type: Plasmid      Polymerase: T3 RNA polymerase

**PCR Amplification:**  
(replaces the SP6 promoter with a T3 promoter)  
T3p : 5' GGA TCC ATT AAC CCT CAC TAA AGG GAA GAG CTA TGA CGT CGC AT 3'  
T7p : 5' TAA TAC GAC TCA CTA TAG GG 3'

Source: [Zebrafish International Resource Center \(ZIRC\)](#) [\(order this\)](#)

Quality: ★★★★★ (Simple to use, intense expression pattern restricted to a few structures)

[Thisse \*in situ\* hybridization protocol](#)

**GENE EXPRESSION:** [\(current status\)](#)  
Directly submitted expression data: [6 figure\(s\) \(47 images\)](#) from Thisse *et al.*, 2001 [cb670]

**MARKER RELATIONSHIPS**  
cb670 is encoded by [\[Gene\] bmp2b \(1\)](#)

**SEQUENCE INFORMATION:**

Type	Accession #	Length	<a href="#">Analysis</a>
cDNA:	<a href="#">GenBank:CA588097</a>	710 bp	<a href="#">- Select Tool -</a>

[All Sequence Information \(2\)](#)

**MAPPING INFORMATION:**  
None submitted.

[CITATIONS](#) (1)

## Probe quality and protocol

## Sequence Link

## Link to Gene expression patterns

The Christine and Bernard Thisse have ranked probes from their large scale in-situ screens according to expression pattern quality. Probes with the highest ranking have the potential to be used as specific probes for an anatomical structure. These are also listed on the appropriate ZFIN anatomy page as High Quality Probes. Descriptions of the star ratings follow, from 5 star to 1 star.

- Simple to use, intense expression pattern restricted to a few structures.
- Nice strong expression pattern.
- Moderate expression pattern.
- Weak expression pattern.
- Probe is difficult to use. Generally basal level of expression with more intense labeling in particular structure.

### Exercises

- Locate probes or clones that could be useful for studies of *fgf8*.
- Can you find a way to order these reagents?