MGC premier cDNAs

Highest quality, comprehensive coverage, cost effective = Best Value
MGC premier cDNAs

cDNA clones are an integral tool for the study of gene function and protein analysis. Modulating gene expression has application across many fields of study from phenotypic analysis to proteomics. Using cDNA or ORF clones, over-expression can drive changes in phenotype allowing a better understanding of the biological role of the gene, while over-expression and purification is often the first step in the study of protein function through the production of antibodies or analysis of protein chemistry.

Defining cDNA and ORF clones

cDNA and ORF clones represent mRNA sequences. The type of clone varies depending on whether protein coding or non-protein coding sequences are included. Commercially available cDNA and ORF collections provide quick, easy access to clones representing genes across entire genomes. MGC premier full length cDNA collections from transOMIC technologies represent human, mouse, rat, bovine, Xenopus and zebrafish genomes. These collections are available as fully sequenced cDNA clones or as full length, sequence-verified cDNA clones with expression-ready vector options.
**Highest quality**

Full-insert sequencing is vital for any experiment using cDNA clones for gene analysis. Single nucleotide polymorphisms (SNPs) and larger splice variant changes in cloned sequences can be difficult to detect without full insert sequencing, but can significantly impact experimental results. MGC premier cDNA clones from transOMIC technologies provide the highest sequence quality for pre-made full length cDNA clones. All clones are 100% guaranteed to match their published sequence and to express when cloned into available expression vectors.

**Comprehensive coverage**

MGC premier collections have broad coverage for many model organisms. Complete genome collections are available for human, mouse, rat, bovine, zebrafish and Xenopus. Expression-ready cDNA options are also available for all available mammalian species.

**Cost Effective**

MGC premier full length cDNA clones are the best value available today for high quality, full length, sequence verified cDNA.

**MGC premier cDNA clone and gene counts for all species**

<table>
<thead>
<tr>
<th></th>
<th>Human</th>
<th>Mouse</th>
<th>Rat</th>
<th>Bovine</th>
<th>Zebrafish</th>
<th>Xenopus laevis</th>
<th>Xenopus tropicalis</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGC premier cDNA clones</td>
<td>29,818</td>
<td>27,285</td>
<td>6,763</td>
<td>9,104</td>
<td>16,739</td>
<td>11,515</td>
<td>9,080</td>
</tr>
<tr>
<td>Non-redundant genes</td>
<td>17,592</td>
<td>17,701</td>
<td>6,486</td>
<td>8,724</td>
<td>11,676</td>
<td>10,088</td>
<td>7,562</td>
</tr>
<tr>
<td>Expression-ready option</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One of the first documented SNPs is the underlying mutation causing sickle cell anemia. A single nucleotide alters cellular phenotype as well as a patient’s life span (Ingram 1957). If left unchecked a cDNA clone bearing this mutation would dramatically alter the outcome an experiment.

100% guarantee*

to be an exact match to the published sequence
**MGC premier cDNA for gene over-expression**

**Full length, sequence-verified cDNA clones**

MGC premier cDNA clones provide the highest sequence quality and confidence when purchasing pre-made full length cDNA clones. Based on the Mammalian Gene Collection (MGC) developed by the National Institutes of Health (NIH) with rigorous sequence analysis resulting in less than 1 error in 50,000 bp (1), MGC premier expression-ready cDNA clones are further curated by re-sequencing to confirm the sequence integrity of purchased clones before shipping. All MGC premier cDNA clones are backed by a 100% guarantee* to be an exact match to the published sequence and to express the target protein.

- Robust expression from the CMV promoter
- Choice of commonly used selection markers
- Guaranteed expression

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**Expression-ready cDNA:**

**Ready to express in mammalian cells**

<table>
<thead>
<tr>
<th>Vector element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cDNA</td>
<td>Fully-sequenced cDNA clone insert</td>
</tr>
<tr>
<td>CMV</td>
<td>Mammalian promoter driving cDNA expression</td>
</tr>
<tr>
<td>Poly A</td>
<td>Polyadenylation site for transcript stability</td>
</tr>
<tr>
<td>Selection marker*</td>
<td>Mammalian selection marker</td>
</tr>
<tr>
<td>SV40</td>
<td>Promoter driving selection marker expression</td>
</tr>
<tr>
<td>pUC Ori</td>
<td>High copy origin of replication</td>
</tr>
<tr>
<td>Bacterial selection marker**</td>
<td>Betalactamase for antibiotic selection in ampicillin or carbenicillin</td>
</tr>
</tbody>
</table>

*Choice of Neomycin or Puromycin selection marker is available.

**MGC premier cDNA clones:**

**Transfer to custom expression vector**

MGC premier cDNA clones are also available as expression-ready vectors. cDNA clone vector as well as expression-ready vector cartoons are shown. pTCN vector has the neomycin selection marker. pTCP has the puromycin selection marker.
Use the Fetch my Gene™ search tool to find cDNA clones representing your gene of interest. Fetch my Gene™ is designed to help you easily find clones for your gene of interest and confirm your results using the gene information provided.

1. **Search**
   - Input your search term into Fetch my gene™.

2. **Choose product type**
   - Quickly filter product type using tabs.

3. **Confirm gene and product**
   - Validate your gene of interest with additional gene information provided.
   - Clone specific information provided through link to clone details page.

4. **Add to cart**
   - Click add to cart to purchase or continue shopping.

**References:**
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