

```

1 <?xml version="1.0" encoding="utf-8"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3 <html xmlns="http://www.w3.org/1999/xhtml">
4   <head xmlns:xi="http://www.w3.org/2001/XInclude">
5     <!-- meta -->
6     <meta name="ncbigrid" content="isPagable:true, pageSize: 10,isSortable: true,
isZebra:true;" />
7 <meta name="ncbi_app" content="entrez" /><meta name="ncbi_db" content="gene"
/><meta name="ncbi_report" content="full_report" /><meta name="ncbi_format"
content="html" /><meta name="ncbi_pagesize" content="20" /><meta
name="ncbi_sortorder" content="default" /><meta name="ncbi_pageno" content="1"
/><meta name="ncbi_resultcount" content="1" /><meta name="ncbi_op"
content="retrieve" /><meta name="ncbi_pdid" content="full_report" /><meta
name="ncbi_sessionid" content="CE8D3F2ECC59B781_0073SID" /><meta
name="ncbi_uidlist" content="25386" /><meta name="ncbi_filter" content="all"
/><meta name="ncbi_stat" content="false" /><meta name="ncbi_hitstat"
content="false" />
8
9
10 <!-- title -->
11 <title>Aqp2 aquaporin 2 (collecting duct) [Rattus norvegicus] - Gene
result</title>
12
13 <!-- Common JS and CSS -->
14
15
16 <script type="text/javascript">
17   var ncbi_startTime = new Date();
18 </script>
19
20 <script type="text/javascript">
21 <!--
22 var PopUpMenu2_GlobalConfig = [
23   ["UseThisGlobalConfig","yes"]
24 ]
25 //-->
26 </script>
27 <script type="text/javascript"
src="/core/jig/1.5/js/jig.min.js"></script>
28 <script type="text/javascript"
src="/coreweb/javascript/popupmenu2/popupmenu2_7loader.js"></script><set></set>
29
30 <link xmlns="http://www.w3.org/1999/xhtml" type="text/css" rel="stylesheet"
href="/portal/portal3rc.fcgi/36616/css/31348/12313.css"
xml:base="http://127.0.0.1/sites/static/header_footer/" /><link
xmlns="http://www.w3.org/1999/xhtml" type="text/css" rel="stylesheet"
href="/portal/portal3rc.fcgi/36616/css/31982.css" media="print"
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31 <link rel="shortcut icon" href="http://www.ncbi.nlm.nih.gov/favicon.ico" /><meta
name="ncbi_phid" content="396912DBCCADE7210000000000B1B5B2" /><script
type="text/javascript"><!--
32 var ScriptUrl = 'http://www.ncbi.nlm.nih.gov/sites/entrez';
33 var ScriptPath = '/portal/';
34 var objHierarchy =
35 {"name":"EntrezSystem2","type":"Layout","realname":"EntrezSystem2",
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MEDLINE">MeSH Database</a></li><li><a href="/pubmed" title="Biomedical literature
abstracts">PubMed</a></li><li><a href="/pmc" title="Free, full-text
articles">PubMed Central</a></li><li><a href="/guide/literature/">All Literature
Resources...</a></li></ul></li><li><a href="#">DNA & RNA</a><ul class="actual-
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submissions of nucleotide sequences">BankIt</a></li><li><a
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a local computer">BLAST (Stand-alone)</a></li><li><a href="/Genbank/" title="DNA
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data">Genome Workbench</a></li><li><a href="/genomes/FLU/" title="Data from the
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reads from next generation sequencing technologies">Sequence Read Archive
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data">Protein</a></li><li><a href="/proteinclusters" title="Clusters of related
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db=structure" title="Database of 3D macromolecular structures derived from PDB">Structure (Molecular Modeling Database)</a></li><li><a href="/Structure/VAST/vast.html" title="Tool that generates 3D structural alignments">Vector Alignment Search Tool (VAST)</a></li><li><a href="/guide/domains-structures/">All Domains & Structures Resources...</a></li></ul></li><li><a href="#">Genetics & Medicine</a><ul class="actual-resources-submenu genetics-medicine"><li><a href="/books" title="Online biomedical books">Bookshelf</a></li><li><a href="/gap" title="Genotype/Phenotype association studies">Database of Genotypes and Phenotypes (dbGaP)</a></li><li><a href="/genomes/FLU/" title="Data from the NIAID Influenza Genome Sequencing Project">Influenza Virus</a></li><li><a href="/mapview/" title="Tool for searching, viewing and downloading genomic maps and related data">Map Viewer</a></li><li><a href="/omim" title="Database of human genes and genetic disorders">Online Mendelian Inheritance in Man (OMIM)</a></li><li><a href="/pubmed" title="Biomedical literature abstracts">PubMed</a></li><li><a href="/pmc" title="Free, full-text articles">PubMed Central</a></li><li><a href="/guide/genetics-medicine/">All Genetics & Medicine Resources...</a></li></ul></li><li><a href="#">Taxonomy</a><ul class="actual-resources-submenu taxonomy"><li><a href="/taxonomy" title="The NCBI taxonomy tree in Entrez">Taxonomy</a></li><li><a href="/Taxonomy/Browser/wwwtax.cgi?mode=Root" title="Displays and links Entrez data to each taxonomic node">Taxonomy Browser</a></li><li><a href="/Taxonomy/CommonTree/wwwcmt.cgi" title="Creates custom taxonomic trees">Taxonomy Common Tree</a></li><li><a href="/guide/taxonomy/">All Taxonomy Resources...</a></li></ul></li><li><a href="#">Data & Software</a><ul class="actual-resources-submenu data-software"><li><a href="/Structure/CN3D/cn3d.shtml" title="Program for viewing 3D structures and alignments">Cn3D</a></li><li><a href="/sutils/static/prosplign/prosplign.html" title="Tool for aligning proteins to genomic DNA">ProSplign</a></li><li><a href="/sutils/splign" title="Tool for aligning transcripts to genomic DNA">Splign</a></li><li><a href="/guide/data-software/">All Data & Software Resources...</a></li></ul></li><li><a href="#">Training & Tutorials</a><ul class="actual-resources-submenu training-tutorials"><li><a href="/Education/" title="Central page providing links to tutorials and training materials">NCBI Education Page</a></li><li><a href="/books/bv.fcgi?rid=handbook.TOC&depth=2" title="Introductory articles about NCBI resources">NCBI Handbook</a></li><li><a href="/books/bv.fcgi?rid=helpbook.TOC" title="Online, searchable help documentation">NCBI Help Manual</a></li><li><a href="/About/primer/" title="An introduction to bioinformatics at NCBI">Science Primer</a></li><li><a href="/guide/training-tutorials/">All Training & Tutorials Resources...</a></li></ul></li><li><a href="#">Homology</a><ul class="actual-resources-submenu homology"><li><a href="http://blast.ncbi.nlm.nih.gov/" title="Tool for finding local regions of sequence similarity">BLAST</a></li><li><a href="http://blast.ncbi.nlm.nih.gov/Blast.cgi?CMD=Web&PAGE\_TYPE=BlastDocs&DOC\_TYPE=Download" title="BLAST programs for a local computer">BLAST (Stand-alone)</a></li><li><a href="/cdd" title="Database of conserved protein domains represented by multiple sequence alignments">Conserved Domain Database (CDD)</a></li><li><a href="/sutils/protmap.cgi" title="Maps proteins from a COG/VOG back to its genome">Genome ProtMap</a></li><li><a href="/homologene" title="Sets of homologous eukaryotic genes">HomoloGene</a></li><li><a href="/proteinclusters" title="Clusters of related proteins from prokaryotes and organelles">Protein Clusters</a></li><li><a href="/guide/homology/">All Homology Resources...</a></li></ul></li><li><a href="#">Small Molecules</a><ul class="actual-resources-submenu small-molecules"><li><a href="/pcassay" title="Contributed bioactivity data for PubChem Substances">PubChem BioAssay</a></li><li><a href="/pccompound" title="Unique, standardized chemical

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structures">PubChem Compound</a></li><li><a
href="http://pubchem.ncbi.nlm.nih.gov/search/search.cgi" title="Searches PubChem
Compound by chemical structure">PubChem Structure Search</a></li><li><a
href="/pcsubstance" title="Provides information on the biological activities of
small molecules.">PubChem Substance</a></li><li><a href="/guide/small-
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title="Genotype/Phenotype association studies">Database of Genotypes and
Phenotypes (dbGaP)</a></li><li><a href="/snp" title="Database of nucleotide
sequence polymorphisms">Database of Single Nucleotide Polymorphisms
(dbSNP)</a></li><li><a href="http://www.ncbi.nlm.nih.gov/projects/SNP" title="The
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to the submission handle request.">SNP Submission Tool</a></li><li><a
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href="/guide/homology/howto/">Homology</a></li><li><a href="/guide/small-
molecules/howto/">Small Molecules</a></li><li><a
href="/guide/variation/howto/">Variation</a></li></ul></li><li
class="offscreen_noflow ui-ncbimenu-item-skip access"><a href="#maincontent"
title="Skip to the content" tabindex="0" accesskey="3">Skip to main
content</a></li><li class="offscreen_noflow ui-ncbimenu-item-skip
access"><a href="#navcontent" title="Skip to the navigation" tabindex="0"
accesskey="4">Skip to
navigation</a></li><li class="offscreen_noflow ui-ncbimenu-item-
skip access"><a href="/sites/myncbi/about/accesskeys" title="About My NCBI
Accesskeys" tabindex="0" accesskey="0">About NCBI Accesskeys</a></li></ul><div
class="myncbi"><a href="/sites/myncbi/" title="My NCBI" id="myncbiusername"
style="display: none;"></a><a href="/sites/myncbi/" title="My NCBI">My NCBI</a><a
href="/sites/myncbi/" title="Sign in" id="sign_in">Sign In</a><a
href="/sites/myncbi/signout/" title="Sign Out" id="sign_out" style="display:
none;">Sign Out</a><script type="text/javascript">
var c = jQuery.cookie('WebCubbyUser'); lre = /.logged-in\=(\w*);.*/; ure =
/.my-name\=(\w*);.*/;
if(c){ l = lre.exec( c ); if(l[1] === 'true'){ u = ure.exec( c );
jQuery("#myncbiusername").text(u[1]).show(); jQuery("#sign_in").hide();
jQuery("#sign_out").show(); } }
</script></div></div>
<div class="header">
<!-- logo -->
<div class="res_logo" id="gene-top">
<h1 class="res_name"><a href="/gene">Entrez Gene</a></h1>
```



```
144     <h2 class="res_tagline">Genes and mapped phenotypes</h2>
145 </div>
146     <!-- SearchBar -->
147     <div class="search"><span class="tr"><span class="tl"></span></span><span
class="br"><span class="bl"></span></span><span class="tr2"></span><div
class="search_top"><label for="search_term">Search:</label><select
name="EntrezSystem2.PEntrez.Gene.Gene_SearchBar.SearchResourceList" sid="1"
id="database"><option value="/sites/gquery" resource="gquery">All
Databases</option><option value="/pubmed"
resource="pubmed">PubMed</option><option value="/protein"
resource="protein">Protein</option><option value="/nuccore"
resource="nuccore">Nucleotide</option><option value="/nucgss"
resource="nucgss">GSS</option><option value="/nucest"
resource="nucest">EST</option><option value="/structure"
resource="structure">Structure</option><option value="/genome"
resource="genome">Genome</option><option value="/biosample"
resource="biosample">BioSample</option><option value="/biosystems"
resource="biosystems">BioSystems</option><option value="/books"
resource="books">Books</option><option value="/cancerchromosomes"
resource="cancerchromosomes">CancerChromosomes</option><option value="/cdd"
resource="cdd">Conserved Domains</option><option value="/gap"
resource="gap">dbGaP</option><option value="/dbvar"
resource="dbvar">dbVar</option><option value="/domains" resource="domains">3D
Domains</option><option value="/epigenomics"
resource="epigenomics">Epigenomics</option><option selected="selected"
value="gene" resource="gene">Gene</option><option value="/genomeprj"
resource="genomeprj">Genome Project</option><option value="/gensat"
resource="gensat">GENSAT</option><option value="/geoprofiles"
resource="geoprofiles">GEO Profiles</option><option value="/gds"
resource="gds">GEO DataSets</option><option value="/homologene"
resource="homologene">HomoloGene</option><option value="/images"
resource="images">Images</option><option value="/journals"
resource="journals">Journals</option><option value="/mesh"
resource="mesh">MeSH</option><option value="/ncbisearch"
resource="ncbisearch">NCBI Web Site</option><option value="/nlmcatalog"
resource="nlmcatalog">NLM Catalog</option><option value="/omia"
resource="omia">OMIA</option><option value="/omim"
resource="omim">OMIM</option><option value="/pepdome"
resource="pepdome">Peptidome</option><option value="/pmc"
resource="pmc">PMC</option><option value="/popset"
resource="popset">PopSet</option><option value="/probe"
resource="probe">Probe</option><option value="/proteinclusters"
resource="proteinclusters">Protein Clusters</option><option value="/pcassay"
resource="pcassay">PubChem BioAssay</option><option value="/pccompound"
resource="pccompound">PubChem Compound</option><option value="/pcsubstance"
resource="pcsubstance">PubChem Substance</option><option value="/snp"
resource="snp">SNP</option><option value="/sra"
resource="sra">SRA</option><option value="/taxonomy"
resource="taxonomy">Taxonomy</option><option value="/toolkit"
resource="toolkit">ToolKit</option><option value="/toolkitall"
resource="toolkitall">ToolKitAll</option><option value="/unigene"
resource="unigene">UniGene</option><option value="/unists"
resource="unists">UniSTS</option></select></div><div class="search_bottom"><input
name="EntrezSystem2.PEntrez.Gene.Gene_SearchBar.Term" sid="1" type="text"
id="search_term" value="" title="Search Gene" cmd="Go" class="jig-
ncbiautocomplete"
config="isEnabled:false,disableUrl:'EntrezSearchBarAutoComplCtrl'"
```

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autocomplete="off" suggest="true" /><button
name="EntrezSystem2.PEntrez.Gene.Gene_SearchBar.Search" sid="1" id="search"
class="button_search" cmd="go">Search</button><button
name="EntrezSystem2.PEntrez.Gene.Gene_SearchBar.Clear" sid="1" id="Clear"
class="button_clear">Clear</button></div><div class="search_extras"><ul
class="inline_list"><li><a
name="EntrezSystem2.PEntrez.Gene.Gene_SearchBar.LimitsLink" sid="1"
onclick="return false;" href="/gene/limits"
id="EntrezSystem2.PEntrez.Gene.Gene_SearchBar.LimitsLink">Limits</a></li><li><a
name="EntrezSystem2.PEntrez.Gene.Gene_SearchBar.Advanced" sid="1" onclick="return
false;" href="/gene/advanced"
id="EntrezSystem2.PEntrez.Gene.Gene_SearchBar.Advanced">Advanced
search</a></li><li><a name="Help"
href="http://www.ncbi.nlm.nih.gov/bookshelf/br.fcgi?
book=helpgene&part=EntrezGene" target="_blank"
id="Help">Help</a></li></ul></div><input
name="EntrezSystem2.PEntrez.Gene.Gene_SearchBar.CurrDb" sid="1" type="hidden"
value="gene" /><script type="text/javascript">
148         var d = document.getElementById('search_term');
149         if (d) {d.focus();}
150     </script></div>
151 </div>
152     <input
name="EntrezSystem2.PEntrez.Gene.Entrez_PageController.PreviousPageName" sid="1"
type="hidden" value="results" />
153     <div class="2col">
154         <div class="container">
155             <div id="maincontent" class="content">
156                 <div class="results_settings one_setting"><h4 class="left
display_settings content_header jig-ncbipopper" id="display_set"
config="targetPosition : 'bottom center',sourcePosition : 'top
center',sourceSelector : '#display_settings_menu',             hasArrow :
false,openMethod : 'click',closeMethod : 'click',isSourceElementCloseClick:
false,addCloseButton : true,             multipleHandlesSelector:'#display_set ~
ul.display_settings a', groupName: 'entrez_pg'"><a href="#"
class="tgt_dark">Display Settings:</a></h4><ul class="inline_list left
display_settings"><li><a
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.Display"
sid="2" href="#" sourceContent="display_settings_menu"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.Display">Full
Report</a></li></ul><div id="display_settings_menu" class="disp_settings
tabPopper"><fieldset class="format"><legend>Format</legend><ul
class="column_list"><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="1" value="full_report" format="" id="full_report" checked="true" /><label
for="full_report">Full Report</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="2" value="full_report" format="text" id="full_reporttext" /><label
for="full_reporttext">Full Report (text)</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="3" value="gene_table" format="" id="gene_table" /><label
for="gene_table">Gene Table</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="4" value="gene_table" format="text" id="gene_tabletext" /><label
for="gene_tabletext">Gene Table (text)</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="5" value="GeneRif" format="" id="GeneRif" /><label

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for="GeneRif">GeneRIF</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="6" value="DocSum" format="" id="DocSum" /><label
for="DocSum">Summary</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="7" value="DocSum" format="text" id="DocSumtext" /><label
for="DocSumtext">Summary (text)</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="8" value="Brief" format="" id="Brief" /><label
for="Brief">Brief</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="9" value="Brief" format="text" id="Brieftext" /><label for="Brieftext">Brief
(text)</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="10" value="ASN1" format="text" id="ASN1text" /><label
for="ASN1text">ASN.1</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="11" value="XML" format="text" id="XMLtext" /><label
for="XMLtext">XML</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.sPresentation"
sid="12" value="uilst" format="text" id="uilsttext" /><label
for="uilsttext">UI List</label></li></ul></fieldset><button
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.SetDisplay"
sid="1" class="button_apply ncbipopper-close-button">Apply</button></div><h4
class="content_header send_to align_right jig-ncbipopper" id="sendto"
config="targetPosition:'bottom center', sourcePosition : 'top
center',sourceSelector : '#send_to_menu', hasArrow : false,
openMethod : 'click',closeMethod : 'click', isSourceElementCloseClick: false,
addCloseButton:true, groupName: 'entrez_pg'"><a href="#"
sourceContent="send_to_menu" class="tgt_dark">Send to:</a><script
type="text/javascript">
157         jQuery(document).ready( function () {
158             jQuery("#send_to_menu input[type='radio']").click(
function () {
159                 var selectedValue =
jQuery(this).val().toLowerCase();
160                 var selectedDiv = jQuery("#send_to_menu div." +
selectedValue);
161
162                 if(selectedDiv.is(":hidden")){
163                     jQuery("#send_to_menu
div.submenu:visible").slideUp();
164                     selectedDiv.slideDown();
165                 }
166             });
167
168         });
169
170         jQuery("#sendto").bind("ncbipopperclose", function(){
171             jQuery("#send_to_menu
div.submenu:visible").css("display","none");
172             jQuery("#send_to_menu
input[type='radio']:checked").attr("checked",false);
173         });
174
175         </script></h4><div id="send_to_menu" class="tabPopper
send_to"><fieldset><legend>Choose Destination</legend><ul

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class="column_list"><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.SendTo"
sid="1" value="File" id="dest_File" /><label
for="dest_File">File</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.SendTo"
sid="2" value="AddToClipboard" id="dest_AddToClipboard" /><label
for="dest_AddToClipboard">Clipboard</label></li><li><input type="radio"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.SendTo"
sid="3" value="AddToCollections" id="dest_AddToCollections" /><label
for="dest_AddToCollections">Collections</label></li></ul></fieldset><div
class="submenu file" id="submenu_File" style="display: none;"><p
id="submenu_File_hint" class="hidden"></p><ul><li><label
for="file_format">Format</label><select id="file_format"
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.FFormat"
sid="1"><option value="full_report" format="text" selected="selected">Full Report
(text)</option><option value="gene_table" format="text">Gene Table
(text)</option><option value="DocSum" format="text">Summary
(text)</option><option value="Brief" format="text">Brief (text)</option><option
value="ASN1" format="text">ASN.1</option><option value="XML"
format="text">XML</option><option value="uilst" format="text">UI
List</option></select></li></ul><button
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.SendToSubmit"
sid="1" class="button_apply file ncbipopper-close-button" type="submit"
cmd="File">Create File</button></div><div class="submenu addtoclipboard"
id="submenu_AddToClipboard" style="display: none;"><p
id="submenu_AddToClipboard_hint" class="hidden"></p><button
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.SendToSubmit"
sid="2" class="button_apply clipboard ncbipopper-close-button" type="submit"
cmd="AddToClipboard">Add to Clipboard</button></div><div class="submenu
addtocollections" id="submenu_AddToCollections" style="display: none;"><p
id="submenu_AddToCollections_hint" class="hidden"></p><button
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.SendToSubmit"
sid="3" class="button_apply collections ncbipopper-close-button" type="submit"
cmd="AddToCollections">Add to Collections</button></div></div><div><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.FileFormat"
sid="1" type="hidden" value="full_report" /><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.LastPresentati
on" sid="1" type="hidden" value="full_report" /><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.Presentation"
sid="1" type="hidden" value="full_report" /><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.PageSize"
sid="1" type="hidden" value="20" /><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.LastPageSize"
sid="1" type="hidden" value="20" /><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.Sort" sid="1"
type="hidden" value="" /><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.LastSort"
sid="1" type="hidden" value="" /><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.FileSort"
sid="1" type="hidden" value="" /><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.Format"
sid="1" type="hidden" value="" /><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_DisplayBar.LastFormat"
sid="1" type="hidden" value="" /></div></div>
<div id="messagearea" class="empty">
<ul id="msgportlet" class="messages"></ul>

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176

177

178



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179         <div></div>
180     </div>
181     <div class="">
182
183         <div><h2 class="result_count"></h2><span id="result_sel"
class="nowrap"></span><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Entrez_ResultsController.Resul
tCount" sid="1" type="hidden" value="1" /><input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Entrez_ResultsController.RunLa
stQuery" sid="1" type="hidden" /></div>
184     </div>
185     <div class="rprt full-rprt">
186         <a id="pageTop"></a><div class="rprt-header">
187         <h1 class="title"><span class="gn">Aqp2</span> aquaporin 2 (collecting duct) [
<em class="tax">Rattus norvegicus</em> ]
188             </h1>
189         <span class="geneid">Gene ID: 25386, updated on 31-Aug-2010</span>
190     </div>
191
192     <div class="rprt-body">
193         <div class="rprt-section gene-Summary">
194         <a id="geneSummary"></a>
195         <div class="tophelp">
196         <a href="/bookshelf/br.fcgi?
book=helpgene&part=EntrezGene#EntrezGene.Summary_2" title="Help"
class="genefullhelp">
197             <span>Help</span>
198         </a>
199         <a href="#gene-top" title="Go to the top of the page" class="genefulltop">
200             <span>top of page</span>
201         </a>
202     </div>
203     <h2 class="secttitle">
204         <a class="jig-ncbitoggler-open">
205         <span class="ui-ncbitoggler-master-text">Summary</span>
206     </a>
207 </h2>
208     <div class="rprt-section-body">
209         <div id="summaryDiv" class="section">
210             <dl id="summaryDl">
211                 <dt class="noline"> Official
212                     Symbol</dt>
213                 <dd class="noline">Aqp2<span class="prov">provided by <a
href="http://rgd.mcw.edu/nomen/nomen.shtml" target="_blank" title="Rat Genome
Database">RGD</a></span></dd>
214                 <dt> Official
215                     Full Name</dt>
216                 <dd>aquaporin 2 (collecting duct)<span class="prov">provided by <a
href="http://rgd.mcw.edu/nomen/nomen.shtml" target="_blank" title="Rat Genome
Database">RGD</a></span></dd>
217                 <dt>Primary source</dt>
218                 <dd>
219                 <a href="http://rgd.mcw.edu/generalSearch/RgdSearch.jsp?
quickSearch=1&searchKeyword=2142">RGD:2142</a>
220             </dd>
221             <dt>See related</dt>
222             <dd>
```

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223         <a
href="http://www.ensembl.org/id/ENSRNOG00000000297">Ensembl:ENSRNOG00000000297;</
a>
224         <a href="http://ratmap.gen.gu.se/ShowSingleLocus.htm?
accno=41271">RATMAP:41271</a>
225     </dd>
226     <dt>Gene type</dt>
227     <dd>protein coding</dd>
228     <dt>RefSeq status</dt>
229     <dd>PROVISIONAL</dd>
230     <dt>Organism</dt>
231     <dd class="tax">
232         <a href="http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?
id=10116">Rattus norvegicus</a>
233     </dd>
234     <dt>Lineage</dt>
235     <dd class="tax">Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus</dd>
236     <dt>Also known as</dt>
237     <dd>AQP-2; MGC156502; aquaporin-2; Aqp2</dd>
238     <dt>Summary</dt>
239     <dd>water channel protein involved in water reabsorption and vasopressin
regulation in kidney collecting duct cells; mutation is linked to nephrogenic
diabetes insipidous (NDI) [RGD]</dd>
240 </dl>
241 </div>
242 </div>
243 </div>
244
245     <link rel="stylesheet" type="text/css"
href="/portal/portal3rc.fcgi/css/413029" /><link rel="stylesheet" type="text/css"
href="http://www.ncbi.nlm.nih.gov/core/extjs/ext-3.1.1/resources/css/xtheme-
gray.css" id="theme" /><link rel="stylesheet" type="text/css"
href="http://www.ncbi.nlm.nih.gov/projects/sviewer/css/style.css" media="screen,
projection, print" /><script type="text/javascript"
src="http://www.ncbi.nlm.nih.gov/core/extjs/ext-3.1.1/adaptor/ext/ext-
base.js"></script><script type="text/javascript"
src="http://www.ncbi.nlm.nih.gov/core/extjs/ext-3.1.1/ext-
all.js"></script><script type="text/javascript"
src="http://www.ncbi.nlm.nih.gov/projects/sviewer/js/main.js"></script><div
class="rprrt-section gene-GenomicProduct">
246     <a id="geneGenomic regions, transcripts, and products"></a>
247     <div class="tophelp">
248         <a href="/bookshelf/br.fcgi?
book=helpgene&part=EntrezGene#EntrezGene.Genomic_Regions_Transcripts_a"
title="Help" class="genefullhelp">
249             <span>Help</span>
250         </a>
251         <a href="#gene-top" title="Go to the top of the page" class="genefulltop">
252             <span>top of page</span>
253         </a>
254     </div>
255     <h2 class="secttitle">
256         <a class="jig-ncbitoggler-open">
257             <span class="ui-ncbitoggler-master-text">Genomic regions, transcripts, and
products</span>

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258     </a>
259 </h2>
260 <div class="rpert-section-body">
261     <div>
262         <p class="note">
263             (plus) Go to <a
href="#geneReference sequences">reference sequence details</a><br /></p>
264     </div>
265     <div class="seq-viewer">
266         <div class="embeded-sq-viewer" style="clear:both;">
267             <div id="divgenefullreport" class="SeqViewerApp"
rel="embedded=true&noslider=1&id=NC_005106.2&from=138325050&to=13
8331696"></div>
268         </div>
269     </div>
270 </div>
271 </div>
272
273         <div class="rpert-section gene-GenomicContext">
274             <a id="geneGenomic context"></a>
275             <div class="tophelp">
276                 <a href="/bookshelf/br.fcgi?
book=helpgene&part=EntrezGene#EntrezGene.Genomic_Context" title="Help"
class="genefullhelp">
277                     <span>Help</span>
278                 </a>
279                 <a href="#gene-top" title="Go to the top of the page" class="genefulltop">
280                     <span>top of page</span>
281                 </a>
282             </div>
283             <h2 class="secttitle">
284                 <a class="jig-ncbitoggler-open">
285                     <span class="ui-ncbitoggler-master-text">Genomic context</span>
286                 </a>
287             </h2>
288             <div class="rpert-section-body">
289                 <div>
290                     <p class="note"><strong>chromosome:</strong> 7; <strong>Location:
</strong>7q36</p>
291                     <p class="note-link">
292                         <a href="/mapview/map_search.cgi?
direct=on&idtype=gene&id=25386">See Aqp2 in MapViewer</a>
293                     </p>
294                 </div>
295                 <p class="withnote"><map name="nbrMap25386_62750807" id="nbrMap25386_62750807">
296 <area shape="rect" onMouseOver="showtip(this,event,'BCDIN3 domain containing') "
onMouseOut="hidetip()" coords="27,23,77,31" alt="Neighboring gene BCDIN3 domain
containing" href="/gene/363001" />
297 <area shape="rect" onMouseOver="showtip(this,event,'Fas apoptotic inhibitory
molecule 2') " onMouseOut="hidetip()" coords="113,23,210,31" alt="Neighboring gene
Fas apoptotic inhibitory molecule 2" href="/gene/246274" />
298 <area shape="rect" onMouseOver="showtip(this,event,'aquaporin 5') "
onMouseOut="hidetip()" coords="367,35,399,43" alt="Neighboring gene aquaporin 5"
href="/gene/25241" />

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299 <area shape="rect" onMouseOver="showtip(this,event,'aquaporin 6, kidney
specific')" onMouseOut="hidetip()" coords="393,23,423,31" alt="Neighboring gene
aquaporin 6, kidney specific" href="/gene/29170" />
300 </map>
301 </p>
302 </div>
303 </div>
304
305 <div class="rprrt-section gene-bibliography">
306 <a id="geneBibliography"></a><div class="tophelp"><a
href="/bookshelf/br.fcgi?
book=helpgene&part=EntrezGene#EntrezGene.Bibliography" title="Help"
class="genefullhelp"><span>Help</span></a><a href="#gene-top" title="Go to the
top of the page" class="genefulltop"><span>top of page</span></a></div><h2
class="secttitle"><a class="jig-ncbitoggler-open"><span class="ui-ncbitoggler-
master-text">Bibliography</span></a></h2>
307
308 <div class="rprrt-section-body">
309
310 <div class="generif-pubmed"><h3>Related articles in
PubMed</h3><div class="generefbl-link"><ol class="generef-link"><li><a
href="/pubmed/20432437/">Adaptation to alkalosis induces cell cycle delay and
apoptosis in cortical collecting duct cells: role of Aquaporin-2.</a> Rivarola V,
<em>et al</em>. J Cell Physiol, 2010 Aug. PMID 20432437.</li><li><a
href="/pubmed/20130117/">Dehydration-induced increase in aquaporin-2 protein
abundance is blocked by nonsteroidal anti-inflammatory drugs.</a> Baggaley E,
<em>et al</em>. Am J Physiol Renal Physiol, 2010 Apr. PMID 20130117.</li><li><a
href="/pubmed/20107111/">Cyclooxygenase 2 inhibition exacerbates AQP2 and pAQP2
downregulation independently of V2 receptor abundance in the postobstructed
kidney.</a> Jensen AM, <em>et al</em>. Am J Physiol Renal Physiol, 2010 Apr. PMID
20107111.</li><li><a href="/pubmed/20089674/">Quantitative analysis of aquaporin-
2 phosphorylation.</a> Xie L, <em>et al</em>. Am J Physiol Renal Physiol, 2010
Apr. PMID 20089674.</li><li><a href="/pubmed/19794145/">FAPP2 is required for
aquaporin-2 apical sorting at trans-Golgi network in polarized MDCK cells.</a>
Yui N, <em>et al</em>. Am J Physiol Cell Physiol, 2009 Dec. PMID
19794145.</li></ol><p class="see-all-pm"><a href="/sites/entrez?
Db=pubmed&DbFrom=gene&Cmd=Link&LinkName=gene_pubmed&LinkReadableN
ame=PubMed&IdsFromResult=25386" title="See all 93 citations in Pubmed">See
all (93) citations in PubMed</a></p></div></div>
311
312 <div class="generif-pubmed generif">
313 <h3>GeneRIFs: Gene References Into Functions <a
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314 <ol class="generef-link">
315 <li>
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config="isTriggerElementCloseClick: false, closeAnimation: 'none', openAnimation
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true">AQP2 expression facilitates cell swelling or shrinkage leading to the
activation of channels necessary to the control of cell proliferatio and
apoptosis.</a>
317 <div id="gene-popper1" class="gene-rif-popper">Title: Adaptation to
alkalosis induces cell cycle delay and apoptosis in cortical collecting duct
cells: role of Aquaporin-2.</div>
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319 <li>

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true">Upregulation of AQP2 expression is maintained dependent upon non-
suppressible release of arginine vasopressin in rats with glucocorticoid
deficiency. AQP2 plays a crucial role in impairment of water excretion in aged
rats with glucocorticoid deficiency.</a>
321      <div id="gene-popper2" class="gene-rif-popper">Title: Vasopressin-dependent
upregulation of aquaporin-2 gene expression in aged rats with glucocorticoid
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true">These results demonstrate that NSAIDs decrease AQP2 protein abundance,
particularly during adaptation during dehydration.</a>
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increase in aquaporin-2 protein abundance is blocked by nonsteroidal anti-
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true">The results indicate that COX-2 inhibition does not mimic ANG II receptor
(AT1R) blockade-mediated effects and that AT1R-mediated AQP2 regulation in the
postobstructed kidney collecting duct is independent of COX-2 induction.</a>
329      <div id="gene-popper4" class="gene-rif-popper">Title: Cyclooxygenase 2
inhibition exacerbates AQP2 and pAQP2 downregulation independently of V2 receptor
abundance in the postobstructed kidney.</div>
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true">These studies suggest that Ser269 phosphorylation may be a more consistent
indicator of vasopressin action and AQP2 membrane abundance than is Ser256
phosphorylation.</a>
333      <div id="gene-popper5" class="gene-rif-popper">Title: Quantitative analysis
of aquaporin-2 phosphorylation.</div>
334    </li>
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336      <a href="/pubmed/18419953" target="_blank" class="jig-ncbipopper"
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337      <div id="gene-popper6" class="gene-rif-popper">Title: [Expression of renal
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340      <a href="/pubmed/19794145" target="_blank" class="jig-ncbipopper"
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true">FAPP2 is necessary to generate AQP2-bearing vesicles at trans-Golgi that
will undergo phosphorylation by protein kinase A in subapical regions.</a>
341      <div id="gene-popper7" class="gene-rif-popper">Title: FAPP2 is required for
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aquaporin-2 apical sorting at trans-Golgi network in polarized MDCK cells.</div>
342     </li>
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true">Increased abundance of inner medulla aquaporin-2 (AQP2) and AQP2
phosphorylated at Ser(256) (p-AQP2) in heart failure.</a>
345         <div id="gene-popper8" class="gene-rif-popper">Title: Changes of renal
AQP2, ENaC, and NHE3 in experimentally induced heart failure: response to
angiotensin II AT1 receptor blockade.</div>
346     </li>
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increased expression in the collecting ducts.</a>
349         <div id="gene-popper9" class="gene-rif-popper">Title: Acute and chronic
metabolic acidosis interferes with aquaporin-2 translocation in the rat kidney
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true">In sirolimus-treated animals, AQP2 expression was reduced and expression of
TRPM6 was increased.</a>
353         <div id="gene-popper10" class="gene-rif-popper">Title: Rosiglitazone
prevents sirolimus-induced hypomagnesemia, hypokalemia, and downregulation of
NKCC2 protein expression.</div>
354     </li>
355 </ol>
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359     <a href="/RefSeq/update.cgi?
geneid=25386&symbol=Aqp2;task=fixpub">Correction</a>
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365 </div>
366
367
368
369     <div class="rpert-section gene-interactions">
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373         <span>Help</span>
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374     </a>
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380     <a class="jig-ncbitoggler-open">
381         <span class="ui-ncbitoggler-master-text">Interactions</span>
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391                     <th id="inter-otherGene">Other Gene</th>
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393                     <th id="inter-source">Source</th>
394                     <th id="inter-pubs">Pubs</th>
395                     <th id="inter-desc">Description</th>
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idsearch=183539">BIND</a> </td>
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408                         <a title="PubMed ID 15336526" href="/pubmed/15336526">PubMed</a>
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410                     <td headers="inter-desc">AQP2 interacts with beta-actin. </td>
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421                     <span>Help</span>
422                 </a>
423                 <a href="#gene-top" title="Go to the top of the page" class="genefulltop">
424                     <span>top of page</span>
425                 </a>
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439           <a href="http://www.ncbi.nlm.nih.gov/genome/sts/sts.cgi?
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440         <dt><strong>Aqp2</strong> (e-PCR), detects polymorphism</dt>
441         <dd> Links:
442           <a href="http://www.ncbi.nlm.nih.gov/genome/sts/sts.cgi?
uid=209563">UniSTS:209563</a></dd>
443         <dt><strong>RH134997</strong> (e-PCR)</dt>
444         <dd> Links:
445           <a href="http://www.ncbi.nlm.nih.gov/genome/sts/sts.cgi?
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454           <a href="http://www.ncbi.nlm.nih.gov/SNP/snp_ref.cgi?locusId=25386">See
Aqp2 SNP
455                                           Geneview
Report </a>
456         </li>
457         <li>
458           <a href="http://www.ncbi.nlm.nih.gov/SNP/CGI/genesnpview.cgi?
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459                                           Genotype
Report </a>
460         </li>
461       </ul>
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471       <h3>Homology</h3>
472       <ul class="geneinfo-subsec">
473         <li><a href="/sites/homologene/20137">Homologs of the Aqp2 gene</a>: The Aqp2
gene is conserved in human, chimpanzee, dog, cow, mouse, A.thaliana, and
rice.</li>
474         <li><a href="http://www.ncbi.nlm.nih.gov/mapview/maps.cgi?

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484 <a href="http://www.genome.jp/dbget-bin/show_pathway?
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1061     <span class="ui-ncbitoggler-master-text">General protein information</span>
1062     </a>
1063     </h2>
1064     <div class="rpert-section-body">
1065     <dl>
1066     <dt>Preferred Names</dt>
1067     <dd>aquaporin-2</dd>
1068     </dl>
1069     <dl>
1070     <dt>Names</dt>
1071     <dd>aquaporin-2</dd>
1072     <dd>AQP-CD</dd>
1073     <dd>WCH-CD</dd>
1074     <dd>aquaporin-CD</dd>
1075     <dd>ADH water channel</dd>
1076     <dd>collecting duct water channel protein</dd>
1077     <dd>water channel protein for renal collecting duct</dd>
1078     </dl>
1079     </div>
1080 </div>
1081
1082     <div class="rpert-section gene-refseq">
1083     <a id="geneReference sequences"></a>
1084     <div class="tophelp">
1085     <a href="/bookshelf/br.fcgi?
book=helpgene&part=EntrezGene#EntrezGene.NCBI_Reference_Sequences_RefS"
title="Help" class="genefullhelp">
1086     <span>Help</span>
1087     </a>
1088     <a href="#gene-top" title="Go to the top of the page" class="genefulltop">
1089     <span>top of page</span>
1090     </a>
1091     </div>
1092     <h2 class="secttitle">
1093     <a class="jig-ncbitoggler-open">
```

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1094     <span class="ui-ncbitoggler-master-text">NCBI Reference Sequences
(RefSeq)</span>
1095     </a>
1096 </h2>
1097 <div class="rpert-section-body">
1098     <h3 class="genomerefseqs">RefSeqs maintained independently of Annotated
Genomes</h3>
1099     <p class="desc"> These reference sequences exist independently of genome
builds.
1100         <a href="#refseq-expl" id="expl-
refseq">Explain</a></p>
1101     <p id="refseq-expl"> These reference sequences are curated
1102         independently of the genome annotation cycle, so their
versions may not match the RefSeq
1103         versions in the current genome build. Identify version
mismatches by comparing the
1104         version of the RefSeq in this section to the one reported in
1105         <a href="#geneGenomic regions, transcripts, and
products">Genomic regions, transcripts, and products</a>
1106         above. </p>
1107     <h4>mRNA and Protein(s) </h4>
1108     <ol>
1109         <li>
1110             <p><a href="/nuccore/NM_012909.2">NM_012909.2</a> → <a
href="/protein/NP_037041.2">NP_037041.2</a> aquaporin-2</p>
1111             <dl>
1112                 <dt>Source sequence(s) </dt>
1113                 <dd>
1114                     <a href="/sviewer/viewer.fcgi?
val=D13906&report=docsum">D13906</a>
1115                 </dd>
1116                 <dt>UniProtKB/Swiss-Prot</dt>
1117                 <dd>
1118                     <a href="/entrez/utils/fref.fcgi?
http://www.uniprot.org/entry/P34080">P34080</a>
1119                 </dd>
1120                 <dt>Related Ensembl</dt>
1121                 <dd><a
href="http://www.ensembl.org/id/ENSRNOP000000000324">ENSRNOP000000000324</a>, <a
href="http://www.ensembl.org/id/ENSRNOT000000000324">ENSRNOT000000000324</a></dd>
1122                 <dt class="clear"> Conserved Domains (1) <a
href="/Structure/cdd/wrpsb.cgi?seqinput=NP_037041.2">summary</a></dt>
1123                 <dd>
1124                     <dl class="level2">
1125                         <dt><a href="/Structure/cdd/cddsrv.cgi?uid=29423">cd00333</a><br
/><span class="cddlocation">Location:</span><span class="cddfrom">11</span> -
<span class="cddto">222</span><br /> Blast Score: <span
class="cddscore">472</span></dt>
1126                         <dd class="clearfix"> MIP; Major intrinsic protein (MIP)
superfamily. Members of the MIP superfamily function as membrane channels that
selectively transport water, small neutral molecules, and ions out of and between
cells.</dd>
1127                     </dl>
1128                 </dd>
1129             </li>
1130         </ol>
1131     </ol>

```

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1132     <h3 class="genomerefseqs">RefSeqs of Annotated Genomes: Build 4.2</h3>
1133     <p class="desc">The following sections contain reference sequences that
belong to a
1134         specific genome build. <a id="expl-genomes"
href="#">Explain</a></p>
1135     <p id="expl-genomes-desc" style="display:none">This section includes genomic
Reference
1136         Sequences (RefSeqs) from all assemblies on which this gene is
annotated, such as RefSeqs
1137         for chromosomes and scaffolds (contigs) from both reference and
alternate assemblies.
1138         Model RNAs and proteins are also reported here.</p>
1139     <h3>Reference assembly (based on RGSC_v3.4)</h3>
1140     <h4>Genomic </h4>
1141     <ol>
1142         <li>
1143             <p>NC_005106.2</p>
1144             <dl>
1145                 <dt>Range</dt>
1146                 <dd>138325855..138330891</dd>
1147                 <dt>Download</dt>
1148                 <dd>
1149                     <a href="/nuccore/NC_005106.2?
from=138325855&to=138330891&report=genbank">GenBank</a>
1150                     <a href="/nuccore/NC_005106.2?
from=138325855&to=138330891&report=fasta"> FASTA</a>
1151                     <a href="/nuccore/NC_005106.2?
from=138325099&to=138331645&report=graph&content=5"> Sequence Viewer
(Graphics)</a>
1152                 </dd>
1153             </dl>
1154         </li>
1155         <li>
1156             <p>NW_047784.1 </p>
1157             <dl>
1158                 <dt>Range</dt>
1159                 <dd>5053841..5058877</dd>
1160                 <dt>Download</dt>
1161                 <dd>
1162                     <a href="/nuccore/NW_047784.1?
from=5053841&to=5058877&report=genbank">GenBank</a>
1163                     <a href="/nuccore/NW_047784.1?
from=5053841&to=5058877&report=fasta"> FASTA</a>
1164                     <a href="/nuccore/NW_047784.1?
from=5053085&to=5059631&report=graph&content=5"> Sequence Viewer
(Graphics)</a>
1165                 </dd>
1166             </dl>
1167         </li>
1168     </ol>
1169     <h3>Alternate assembly (Rn_Celera)</h3>
1170     <h4>Genomic </h4>
1171     <ol>
1172         <li>
1173             <p>AC_000075.1</p>
1174             <dl>
1175                 <dt>Range</dt>
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1176         <dd>127193026..127197996</dd>
1177         <dt>Download</dt>
1178         <dd>
1179             <a href="/nuccore/AC_000075.1?
from=127193026&to=127197996&report=genbank">GenBank</a>
1180             <a href="/nuccore/AC_000075.1?
from=127193026&to=127197996&report=fasta"> FASTA</a>
1181             <a href="/nuccore/AC_000075.1?
from=127192279&to=127198741&report=graph&content=5"> Sequence Viewer
(Graphics)</a>
1182         </dd>
1183     </dl>
1184 </li>
1185 <li>
1186     <p>NW_001084861.1 </p>
1187     <dl>
1188         <dt>Range</dt>
1189         <dd>4221701..4226671</dd>
1190         <dt>Download</dt>
1191         <dd>
1192             <a href="/nuccore/NW_001084861.1?
from=4221701&to=4226671&report=genbank">GenBank</a>
1193             <a href="/nuccore/NW_001084861.1?
from=4221701&to=4226671&report=fasta"> FASTA</a>
1194             <a href="/nuccore/NW_001084861.1?
from=4220954&to=4227416&report=graph&content=5"> Sequence Viewer
(Graphics)</a>
1195         </dd>
1196     </dl>
1197 </li>
1198 </ol>
1199 </div>
1200 </div>
1201
1202         <div class="rpert-section gene-relate-seq">
1203             <a id="geneRelated sequences"></a>
1204             <div class="tophelp">
1205                 <a href="/bookshelf/br.fcgi?
book=helpgene&part=EntrezGene#EntrezGene.Related_Sequences" title="Help"
class="genefullhelp">
1206                     <span>Help</span>
1207                 </a>
1208                 <a href="#gene-top" title="Go to the top of the page" class="genefulltop">
1209                     <span>top of page</span>
1210                 </a>
1211             </div>
1212             <h2 class="secttitle">
1213                 <a class="jig-ncbitoggler-open">
1214                     <span class="ui-ncbitoggler-master-text">Related Sequences</span>
1215                 </a>
1216             </h2>
1217             <div class="rpert-section-body">
1218                 <table class="jig-ncbigrid" config="isPageable:true, pageSize:25">
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1220                         <tr>
1221                             <th colspan="2" id="rs-nucleo">Nucleotide</th>
1222                             <th rowspan="2" id="rs-protein">Protein</th>
```

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1223     <th class="nucleoTblTh" rowspan="2" id="rs-strain">Strain</th>
1224 </tr>
1225 <tr>
1226     <th id="rs-heading">Heading</th>
1227     <th id="rs-heading-acc">Accession and Version</th>
1228 </tr>
1229 </thead>
1230 <tbody>
1231 <tr>
1232     <td headers="rs-nucleo rs-heading">genomic</td>
1233     <td headers="rs-nucleo rs-heading-acc">
1234         <a href="/nuccore/74325626">CH474035.2</a>
1235     </td>
1236     <td headers="rs-protein">
1237         <a href="/protein/149032069">EDL86981.1</a>
1238     </td>
1239 </tr>
1240 <tr>
1241     <td colspan="2"> </td>
1242     <td>
1243         <a href="/protein/149032070">EDL86982.1</a>
1244     </td>
1245 </tr>
1246 <tr>
1247     <td headers="rs-nucleo rs-heading">genomic</td>
1248     <td headers="rs-nucleo rs-heading-acc">
1249         <a href="/nuccore/4589393">D87128.1</a>
1250     </td>
1251     <td headers="rs-protein">None</td>
1252 </tr>
1253 <tr>
1254     <td headers="rs-nucleo rs-heading">mRNA</td>
1255     <td headers="rs-nucleo rs-heading-acc">
1256         <a href="/nuccore/6561266">AF110021.1</a>
1257     </td>
1258     <td headers="rs-protein">
1259         <a href="/protein/6561267">AAF16871.1</a>
1260     </td>
1261     <td headers="rs-strain">Sprague-Dawley</td>
1262 </tr>
1263 <tr>
1264     <td headers="rs-nucleo rs-heading">mRNA</td>
1265     <td headers="rs-nucleo rs-heading-acc">
1266         <a href="/nuccore/118764349">BC128705.1</a>
1267     </td>
1268     <td headers="rs-protein">
1269         <a href="/protein/118764350">AAI28706.1</a>
1270     </td>
1271 </tr>
1272 <tr>
1273     <td headers="rs-nucleo rs-heading">mRNA</td>
1274     <td headers="rs-nucleo rs-heading-acc">
1275         <a href="/nuccore/286195">D13906.1</a>
1276     </td>
1277     <td headers="rs-protein">
1278         <a href="/protein/286196">BAA03006.1</a>
1279     </td>
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1280         <td headers="rs-strain">Sprague-Dawley</td>
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1282     <tr>
1283         <td headers="rs-nucleo rs-heading">mRNA</td>
1284         <td headers="rs-nucleo rs-heading-acc">
1285             <a href="/nuccore/452119">L28112.1</a>
1286         </td>
1287         <td headers="rs-protein">
1288             <a href="/protein/452120">AAA41478.1</a>
1289         </td>
1290     </tr>
1291 </tbody>
1292 </table>
1293 <br />
1294 <table id="proteinTblId" class="jig-ncbigrid" config="isPageable:true,
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1296         <tr>
1297             <th class="proteinTblTh" rowspan="2" id="rs-prot-acc">Protein
Accession</th>
1298             <th class="proteinTblTh" colspan="2" id="rs-link">Links</th>
1299         </tr>
1300         <tr>
1301             <th id="rs-genepept">GenePept Link</th>
1302             <th id="rs-uniprot">UniProtKB Link</th>
1303         </tr>
1304     </thead>
1305     <tbody>
1306         <tr>
1307             <td headers="rs-prot-acc">P34080.1</td>
1308             <td headers="rs-link rs-genepept">
1309                 <a href="/protein/461529">GenPept</a>
1310             </td>
1311             <td headers="rs-link rs-uniprot">
1312                 <a href="http://www.uniprot.org/entry/P34080">UniProtKB/Swiss-
Prot:P34080</a>
1313             </td>
1314         </tr>
1315         <tr>
1316             <td headers="rs-prot-acc">Q9QYA1</td>
1317             <td headers="rs-link rs-genepept">
1318                 <a href="/protein/81907124">GenPept</a>
1319             </td>
1320             <td headers="rs-link rs-uniprot">
1321                 <a
href="http://www.uniprot.org/entry/Q9QYA1">UniProtKB/TrEMBL:Q9QYA1</a>
1322             </td>
1323         </tr>
1324     </tbody>
1325 </table>
1326 </div>
1327 </div>
1328
1329     <div class="rprt-section gene-additional-links">
1330         <a id="geneAdditional links"></a><div class="tophelp">
1331             <a href="/bookshelf/br.fcgi?
book=helpgene&part=EntrezGene#EntrezGene.Additional_Links" title="Help"
```

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class="genefullhelp">
1332     <span>Help</span>
1333 </a>
1334 <a href="#gene-top" title="Go to the top of the page" class="genefulltop">
1335     <span>top of page</span>
1336 </a>
1337 </div><h2 class="secttitle">
1338     <a class="jig-ncbitoggler-open">
1339         <span class="ui-ncbitoggler-master-text">Additional Links</span>
1340     </a>
1341 </h2>
1342
1343     <div class="rpert-section-body">
1344         <div>
1345             <h3 class="withnote">Additional Links</h3>
1346             <ul class="add-links">
1347                 <li>UCSC <a href="http://genome.ucsc.edu/cgi-bin/hgTracks?
org=rat&position=NM_012909">UCSC</a></li>
1348                 <li>UniGene <a href="http://www.ncbi.nlm.nih.gov/UniGene/clust.cgi?
ORG=Rn&CID=90076">Rn.90076</a></li>
1349             </ul>
1350 </div>
1351
1352             <h3 class="withnote">Gene LinkOut </h3><p>The following <a
href="http://www.ncbi.nlm.nih.gov/projects/linkout/index.html">LinkOut</a>
resources are supplied by external providers. These providers are
1353                 responsible for maintaining the links. </p><div>
1354 <div class="linkout">
1355     <a class="jig-ncbitoggler-open main">
1356         <span>Molecular Biology Databases</span>
1357     </a>
1358     <ul>
1359         <li>
1360             <span class="free-rsc"></span>
1361             <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=6845&uid=25386&nlmid=&db=gene&url=
http://www.nextbio.com/b/search/ov/Aqp2?id=606439&type=feature">NextBio</a>
1362         </li>
1363         <li><span class="free-rsc"></span>Kyoto Encyclopedia of Genes and
Genomes</li>
1364     </ul>
1365     <li>
1366         <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=5174&uid=25386&nlmid=&db=gene&url=
http://www.genome.jp/dbget-bin/show_pathway?rno04962+25386">
1367             <span>Vasopressin-regulated water reabsorption</span>
1368         </a>
1369     </li>
1370     <li>
1371         <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=5174&uid=25386&nlmid=&db=gene&url=
http://www.genome.jp/dbget-bin/www_bget?rno:25386">
1372             <span>rno:25386</span>
1373         </a>
1374     </li>
1375 </ul>
1376 <li>

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1377      <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=5628&uid=25386&nlmid=&db=gene&url=
https://analysis.ingenuity.com/pa/api/v2/geneview?
geneidtype=entrezgene&geneid=25386&applicationname=Entrez">Ingenuity
Pathways Analysis</a>
1378    </li>
1379    <li>
1380      <span class="free-rsc"></span>
1381      <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=5618&uid=25386&nlmid=&db=gene&url=
http://www.ihop-net.org/UniPub/iHOP/to?focus=IHOP&id=321485">iHOP -
Information Hyperlinked over Proteins</a>
1382    </li>
1383    <li>
1384      <span class="free-rsc"></span>
1385      <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=5059&uid=25386&nlmid=&db=gene&url=
http://biogps.gnf.org/genereport/25386/">BioGPS</a>
1386    </li>
1387    <li>
1388      <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=7557&uid=25386&nlmid=&db=gene&url=
https://www.genevestigator.com/gv/directlink.jsp?
geneIDs=25386&geneIDType=Entrez_Gene&source=NCBI">GENEVESTIGATOR</a>
1389    </li>
1390    <li><span class="free-rsc"></span>GeneNetwork</li>
1391  <ul>
1392    <li>
1393      <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=5746&uid=25386&nlmid=&db=gene&url=
http://www.genenetwork.org/webqtl/WebQTL.py?
cmd=sch&geneid=25386&species=rat">
1394        <span>Records for gene expression in Rat</span>
1395      </a>
1396    </li>
1397  </ul>
1398  <li>
1399    <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=7084&uid=25386&nlmid=&db=gene&url=
https://portal.genego.com/cgi/gene.cgi?id=-1233852364">GeneGo</a>
1400  </li>
1401  <li>
1402    <span class="free-rsc"></span>
1403    <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=5380&uid=25386&nlmid=&db=gene&url=
http://natural.salk.edu/cgi-bin/creb?
DB=rat&TABLE=Rat_CRE_Prediction&FIELD=LocusLink&QUERY=25386">CREB
Target Gene Database</a>
1404  </li>
1405 </ul>
1406 </div>
1407 <div class="linkout">
1408   <a class="jig-ncbitoggler-open main">
1409     <span>Research Materials</span>
1410   </a>
1411   <ul>
1412     <li>ExactAntigen/Labome</li>
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1413     <ul>
1414         <li>
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http://www.labome.com/review/gene/rat/aquaporin-2-antibody-all-methods.html">
1416                 <span>antibody review</span>
1417             </a>
1418         </li>
1419         <li>
1420             <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=5753&uid=25386&nlmid=&db=gene&url=
http://www.labome.com/gene/rat/aquaporin-2-protein.html">
1421                 <span>protein and peptide</span>
1422             </a>
1423         </li>
1424         <li>
1425             <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=5753&uid=25386&nlmid=&db=gene&url=
http://www.labome.com/gene/rat/aquaporin-2-cDNA.html">
1426                 <span>cDNA clone/miRNA-related clone</span>
1427             </a>
1428         </li>
1429         <li>
1430             <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=5753&uid=25386&nlmid=&db=gene&url=
http://www.labome.com/gene/rat/aquaporin-2-antibody.html">
1431                 <span>antibody</span>
1432             </a>
1433         </li>
1434     </ul>
1435     <li>antibodies-online</li>
1436     <ul>
1437         <li>
1438             <a target="_blank" href="/entrez/utils/fref.fcgi?
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http://www.antibodies-online.com/antigen/Aquaporin%20%20(AQP2)/">
1439                 <span>anti-Aquaporin 2 (AQP2) antibodies</span>
1440             </a>
1441         </li>
1442     </ul>
1443 </ul>
1444 </div>
1445 <div class="linkout">
1446     <a class="jig-ncbitoggler main">
1447         <span>Miscellaneous</span>
1448     </a>
1449     <ul>
1450         <li><span class="free-rsc"></span>Reactome</li>
1451     </ul>
1452     <li>
1453         <a target="_blank" href="/entrez/utils/fref.fcgi?
itool=Gene_FullReport&PrId=4914&uid=25386&nlmid=&db=gene&url=
http://www.reactome.org/cgi-bin/link?SOURCE=UniProt&ID=P34080">
1454             <span>Reactome Entity:P34080</span>
1455         </a>
1456     </li>
1457 </ul>
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https://www.qiagen.com/geneglobe/geneview.aspx?
EntrezGeneID=25386&bt.mc_id=NCBIGeneLinkoutGeneglobe0910">QIAGEN
GeneGlobe</a>
1461     </li>
1462 </ul>
1463 </div>
1464 </div>
1465
1466     </div>
1467 </div>
1468     </div>
1469 </div>
1470
1471     <div class="title_and_pager bottom">
1472
1473     </div>
1474
1475     </div>
1476 </div>
1477 <div class="supplemental">
1478     <h2 class="offscreen_noflow">Supplemental Content</h2>
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1480     <div id="gene-sidebar">
1481         <div>
1482             <div class="portlet brieflink">
1483 <div class="portlet_head">
1484     <div class="portlet_title">
1485         <h3>Table of contents</h3>
1486     </div>
1487     <a
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lumn.Gene_TableOfContents.Shutter" sid="1" href="#" class="portlet_shutter"
title="Show/hide content" remembercollapsed="true"
pgsec_name="Gene_TableOfContents"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightColu
mn.Gene_TableOfContents.Shutter"></a>
1488 </div>
1489 <div class="portlet_content">
1490 <ul>
1491     <li>
1492         <a href="#geneSummary">Summary</a>
1493     </li>
1494     <li>
1495         <a href="#geneGenomic regions, transcripts, and products">Genomic regions,
transcripts, and products</a>
1496     </li>
1497     <li>
1498         <a href="#geneGenomic context">Genomic context</a>
1499     </li>
1500     <li>
1501         <a href="#geneBibliography">Bibliography</a>
1502     </li>
1503     <li>
```



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1504     <a href="#geneInteractions">Interactions</a>
1505 </li>
1506 <li>
1507     <a href="#geneGeneral gene info">General gene info</a>
1508 </li>
1509 <li>
1510     <a href="#geneGeneral protein info">General protein info</a>
1511 </li>
1512 <li>
1513     <a href="#geneReference sequences">Reference sequences</a>
1514 </li>
1515 <li>
1516     <a href="#geneRelated sequences">Related sequences</a>
1517 </li>
1518 <li>
1519     <a href="#geneAdditional links">Additional links</a>
1520 </li>
1521 </ul>
1522 </div>
1523 </div>
1524
1525     <div class="portlet brieflink">
1526 <div class="portlet_head">
1527     <div class="portlet_title">
1528         <h3>Links</h3>
1529     </div>
1530     <a
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightCo
lumn.Gene_LinksOne.Shutter" sid="1" href="#" class="portlet_shutter"
title="Show/hide content" remembercollapsed="true" pgsec_name="Gene_LinksOne"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightColu
mn.Gene_LinksOne.Shutter"></a>
1531 </div>
1532 <div class="portlet_content">
1533 <ul>
1534 <li>
1535     <a href="/genome/clone/orderclone.cgi?db=gene&uid=25386">Order cDNA
clone</a>
1536 </li>
1537 <li>
1538     <a href="/sites/entrez?
Db=biosystems&DbFrom=gene&Cmd=Link&LinkName=gene_biosystems&LinkR
eadableName=BioSystems&IdsFromResult=25386">BioSystems</a>
1539 </li>
1540 <li>
1541     <a href="/sites/entrez?
Db=cdd&DbFrom=gene&Cmd=Link&LinkName=gene_cdd&LinkReadableName=Co
nserved%20Domains&IdsFromResult=25386">Conserved Domains</a>
1542 </li>
1543 <li>
1544     <a href="/sites/entrez?
Db=pmc&DbFrom=gene&Cmd=Link&LinkName=gene_pmc&LinkReadableName=Fu
ll%20text%20in%20PMC&IdsFromResult=25386">Full text in PMC</a>
1545 </li>
1546 <li>
1547     <a href="/sites/entrez?
Db=geoprofiles&DbFrom=gene&Cmd=Link&LinkName=gene_geoprofiles&Lin
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kReadableName=GEO%20Profiles&IdsFromResult=25386">GEO Profiles</a>
1548     </li>
1549     <li>
1550         <a href="/sites/entrez?
Db=genome&DbFrom=gene&Cmd=Link&LinkName=gene_genome&LinkReadableName=Genome&IdsFromResult=25386">Genome</a>
1551     </li>
1552     <li>
1553         <a href="/sites/entrez?
Db=homologene&DbFrom=gene&Cmd=Link&LinkName=gene_homologene&LinkReadableName=HomoloGene&IdsFromResult=25386">HomoloGene</a>
1554     </li>
1555     <li>
1556         <a href="/mapview/map_search.cgi?
direct=on&idtype=gene&id=25386">Map Viewer</a>
1557     </li>
1558     <li>
1559         <a href="/sites/entrez?
Db=nuccore&DbFrom=gene&Cmd=Link&LinkName=gene_nuccore&LinkReadableName=Nucleotide&IdsFromResult=25386">Nucleotide</a>
1560     </li>
1561     <li>
1562         <a href="/sites/entrez?
Db=omia&DbFrom=gene&Cmd=Link&LinkName=gene_omia&LinkReadableName=OMIA&IdsFromResult=25386">OMIA</a>
1563     </li>
1564     <li>
1565         <a href="/sites/entrez?
Db=probe&DbFrom=gene&Cmd=Link&LinkName=gene_probe&LinkReadableName=Probe&IdsFromResult=25386">Probe</a>
1566     </li>
1567     <li>
1568         <a href="/sites/entrez?
Db=protein&DbFrom=gene&Cmd=Link&LinkName=gene_protein&LinkReadableName=Protein&IdsFromResult=25386">Protein</a>
1569     </li>
1570     <li>
1571         <a href="/sites/entrez?
Db=pccompound&DbFrom=gene&Cmd=Link&LinkName=gene_pccompound&LinkReadableName=PubChem%20Compound&IdsFromResult=25386">PubChem Compound</a>
1572     </li>
1573     <li>
1574         <a href="/sites/entrez?
Db=pcsubstance&DbFrom=gene&Cmd=Link&LinkName=gene_pcsubstance&LinkReadableName=PubChem%20Substance&IdsFromResult=25386">PubChem Substance</a>
1575     </li>
1576     <li>
1577         <a href="/sites/entrez?
Db=pubmed&DbFrom=gene&Cmd=Link&LinkName=gene_pubmed&LinkReadableName=PubMed&IdsFromResult=25386">PubMed</a>
1578     </li>
1579     <li>
1580         <a href="/sites/entrez?
Db=pubmed&DbFrom=gene&Cmd=Link&LinkName=gene_pubmed_rif&LinkReadableName=PubMed%20(GeneRIF)&IdsFromResult=25386">PubMed (GeneRIF)</a>
1581     </li>
1582     <li>
```

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1583     <a href="/sites/entrez?
Db=protein&DbFrom=gene&Cmd=Link&LinkName=gene_protein_refseq&Link
ReadableName=RefSeq%20Proteins&IdsFromResult=25386">RefSeq Proteins</a>
1584     </li>
1585     <li>
1586         <a href="/sites/entrez?
Db=nucore&DbFrom=gene&Cmd=Link&LinkName=gene_nucore_refseqrna&L
inkReadableName=RefSeq%20RNAs&IdsFromResult=25386">RefSeq RNAs</a>
1587     </li>
1588     <li>
1589         <a href="/sites/entrez?
Db=snp&DbFrom=gene&Cmd=Link&LinkName=gene_snp&LinkReadableName=SN
P&IdsFromResult=25386">SNP</a>
1590     </li>
1591     <li>
1592         <a href="http://www.ncbi.nlm.nih.gov/SNP/snp_ref.cgi?locusId=25386">SNP:
GeneView</a>
1593     </li>
1594     <li>
1595         <a href="http://www.ncbi.nlm.nih.gov/SNP/CGI/genesnpview.cgi?
report=genotype&fromdb=gene&id=25386">SNP: Genotype</a>
1596     </li>
1597     <li>
1598         <a href="/sites/entrez?
Db=taxonomy&DbFrom=gene&Cmd=Link&LinkName=gene_taxonomy&LinkReada
bleName=Taxonomy&IdsFromResult=25386">Taxonomy</a>
1599     </li>
1600     <li>
1601         <a href="/sites/entrez?
Db=unists&DbFrom=gene&Cmd=Link&LinkName=gene_unists&LinkReadableN
ame=UniSTS&IdsFromResult=25386">UniSTS</a>
1602     </li>
1603     <li>
1604         <a href="/sites/entrez?
Db=unigene&DbFrom=gene&Cmd=Link&LinkName=gene_unigene&LinkReadabl
eName=UniGene&IdsFromResult=25386">UniGene</a>
1605     </li>
1606 </ul>
1607 </div>
1608 </div>
1609
1610     <div class="portlet brieflink">
1611         <div class="portlet_head">
1612             <div class="portlet_title">
1613                 <h3>Links to external resources</h3>
1614             </div>
1615             <a
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightCo
lumn.Gene_LinksTwo.Shutter" sid="1" href="#" class="portlet_shutter"
title="Show/hide content" remembercollapsed="true" pgsec_name="Gene_LinksTwo"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightColu
mn.Gene_LinksTwo.Shutter"></a>
1616         </div>
1617         <div class="portlet_content">
1618             <ul>
1619                 <li>
1620                     <a href="http://rgd.mcw.edu/generalSearch/RgdSearch.jsp?

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quickSearch=1&searchKeyword=2142">RGD</a>
1621     </li>
1622     <li>
1623         <a href="http://www.ensembl.org/id/ENSRNOG00000000297">Ensembl</a>
1624     </li>
1625     <li>
1626         <a href="http://ratmap.gen.gu.se/ShowSingleLocus.htm?
accno=41271">RATMAP</a>
1627     </li>
1628     <li>
1629         <a href="http://www.ncbi.nlm.nih.gov/sutils/evv.cgi?
taxid=10116&contig=NW_047784.1&gene=Aqp2&lid=25386&from=5053840&a
mp;to=5058876">Evidence Viewer</a>
1630     </li>
1631     <li>
1632         <a href="http://www.ncbi.nlm.nih.gov/mapview/modelmaker.cgi?
taxid=10116&contig=NW_047784.1&from=5053840&to=5058876&gene=Aqp2&
amp;lid=25386">ModelMaker</a>
1633     </li>
1634     <li>
1635         <a href="http://genome.ucsc.edu/cgi-bin/hgTracks?
org=rat&position=NW_012909">UCSC</a>
1636     </li>
1637     <li>
1638         <a href="http://mgc.nci.nih.gov/Genes/CloneList?
ORG=Rn&LIST=BC128705">MGC</a>
1639     </li>
1640     <li>
1641         <a href="http://www.genome.jp/dbget-bin/www_bget?rno:25386">KEGG</a>
1642     </li>
1643 </ul>
1644 </div>
1645 </div>
1646
1647     <div class="portlet brieflink">
1648     <div class="portlet_head">
1649     <div class="portlet_title">
1650         <h3>General information</h3>
1651     </div>
1652     <a
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightCo
lumn.Gene_GeneralInfo.Shutter" sid="1" href="#" class="portlet_shutter"
title="Show/hide content" remembercollapsed="true" pgsec_name="Gene_GeneralInfo"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightColu
mn.Gene_GeneralInfo.Shutter"></a>
1653     </div>
1654     <div class="portlet_content">
1655     <ul>
1656     <li>
1657         <a href="http://www.pubmedcentral.nih.gov/articlerender.fcgi?
tool=pubmed&pubmedid=15608257">About Entrez Gene</a>
1658     </li>
1659     <li>
1660         <a href="http://www.ncbi.nlm.nih.gov/bookshelf/br.fcgi?
book=helpgene&part=genefaq">FAQ</a>
1661     </li>
1662     <li>
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1663     <a href="ftp://ftp.ncbi.nlm.nih.gov/gene/">FTP site</a>
1664   </li>
1665   <li>
1666     <a href="http://www.ncbi.nlm.nih.gov/bookshelf/br.fcgi?
book=helpgene&part=EntrezGene">Help</a>
1667   </li>
1668   <li>
1669     <a href="http://www.ncbi.nlm.nih.gov/books/bv.fcgi?
rid=handbook.chapter.ch19">NCBI Handbook</a>
1670   </li>
1671   <li>
1672     <a
href="http://www.ncbi.nlm.nih.gov/projects/Gene/gentrez_stats.cgi">Statistics</a>
1673   </li>
1674   <li>
1675     <a href="http://www.ncbi.nlm.nih.gov/books/bv.fcgi?
rid=helpmyncbi.chapter.MyNCBI">My NCBI help</a>
1676   </li>
1677 </ul>
1678 </div>
1679 </div>
1680
1681     <div class="portlet brieflink">
1682   <div class="portlet_head">
1683     <div class="portlet_title">
1684       <h3>Related sites</h3>
1685     </div>
1686     <a
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightCo
lumn.Gene_RelatedSites.Shutter" sid="1" href="#" class="portlet_shutter"
title="Show/hide content" remembercollapsed="true" pgsec_name="Gene_RelatedSites"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightColu
mn.Gene_RelatedSites.Shutter"></a>
1687   </div>
1688   <div class="portlet_content">
1689     <ul>
1690       <li>
1691         <a href="http://www.ncbi.nlm.nih.gov/BLAST">BLAST</a>
1692       </li>
1693       <li>
1694         <a href="http://www.ncbi.nlm.nih.gov/portal/query.fcgi?
p$site=entrez&DB=genome">Entrez Genome</a>
1695       </li>
1696       <li>
1697         <a href="http://www.ncbi.nlm.nih.gov/portal/query.fcgi?
p$site=entrez&db=genomeprj">Genome Project</a>
1698       </li>
1699       <li>
1700         <a href="http://www.ncbi.nlm.nih.gov/Genomes">Genomic Biology</a>
1701       </li>
1702       <li>
1703         <a href="http://www.ncbi.nlm.nih.gov/projects/geo/">GEO</a>
1704       </li>
1705       <li>
1706         <a href="http://www.ncbi.nlm.nih.gov/portal/query.fcgi?
p$site=entrez&db=homologene">HomoloGene</a>
1707       </li>
```

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1708     <li>
1709         <a href="http://www.ncbi.nlm.nih.gov/mapview/">Map Viewer</a>
1710     </li>
1711     <li>
1712         <a href="http://www.ncbi.nlm.nih.gov/portal/query.fcgi?
p$site=entrez&db=OMIM">OMIM</a>
1713     </li>
1714     <li>
1715         <a href="http://www.ncbi.nlm.nih.gov/portal/query.fcgi?
p$site=entrez&DB=probe">Probe</a>
1716     </li>
1717     <li>
1718         <a href="http://www.ncbi.nlm.nih.gov/RefSeq/">RefSeq</a>
1719     </li>
1720     <li>
1721         <a href="http://www.ncbi.nlm.nih.gov/portal/query.fcgi?
p$site=entrez&db=unigene">UniGene</a>
1722     </li>
1723     <li>
1724         <a href="http://www.ncbi.nlm.nih.gov/portal/query.fcgi?
p$site=entrez&DB=unists">UniSTS</a>
1725     </li>
1726 </ul>
1727 </div>
1728 </div>
1729
1730     <div class="portlet brieflink">
1731     <div class="portlet_head">
1732         <div class="portlet_title">
1733             <h3>Feedback</h3>
1734         </div>
1735         <a
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightCo
lumn.Gene_Feedback.Shutter" sid="1" href="#" class="portlet_shutter"
title="Show/hide content" remembercollapsed="true" pgsec_name="Gene_Feedback"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightColu
mn.Gene_Feedback.Shutter"></a>
1736     </div>
1737     <div class="portlet_content">
1738     <ul>
1739     <li>
1740         <a href="mailto:info@ncbi.nlm.nih.gov?subject=Gene">Contact Help Desk</a>
1741     </li>
1742     <li>
1743         <a href="http://www.ncbi.nlm.nih.gov/RefSeq/update.cgi?
geneid=25386&symbol=Aqp2">Submit Correction</a>
1744     </li>
1745     <li>
1746         <a href="http://www.ncbi.nlm.nih.gov/projects/GeneRIF/GeneRIF.cgi?
lid=25386&sym=Aqp2&name=aquaporin 2 (collecting duct)&org=Rattus
norvegicus&url=/gene/25386">Submit GeneRIF</a>
1747     </li>
1748     </ul>
1749 </div>
1750 </div>
1751
1752     <div class="portlet brieflink">
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1753     <div class="portlet_head">
1754         <div class="portlet_title">
1755             <h3>Subscription</h3>
1756         </div>
1757         <a
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightCo
lumn.Gene_Subscription.Shutter" sid="1" href="#" class="portlet_shutter"
title="Show/hide content" remembercollapsed="true" pgsec_name="Gene_Subscription"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.Gene_RVFullReport.Gene_RightColu
mn.Gene_Subscription.Shutter"></a>
1758     </div>
1759     <div class="portlet_content">
1760         <ul>
1761             <li>
1762                 <a href="http://www.ncbi.nlm.nih.gov/mailman/listinfo/refseq-
announce">RefSeq</a>
1763             </li>
1764             <li>
1765                 <a href="http://www.ncbi.nlm.nih.gov/mailman/listinfo/gene-
announce">Gene</a>
1766             </li>
1767             <li>
1768                 <a href="http://www.ncbi.nlm.nih.gov/mailman/listinfo/mapview-announce">Map
Viewer</a>
1769             </li>
1770         </ul>
1771     </div>
1772 </div>
1773
1774 </div>
1775
1776 <!--     <component id="Gene_RVFullReport.Gene_RightColMenuLinks"/>-->
1777     <div class="portlet">
1778         <div class="portlet_head">
1779             <div class="portlet_title">
1780                 <h3>Recent activity</h3>
1781             </div>
1782             <a name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.Shutter"
sid="1" href="#" class="portlet_shutter" title="Show/hide content"
remembercollapsed="true" pgsec_name="recent_activity"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.Shutter"></a>
1783         </div>
1784         <div class="portlet_content">
1785             <div id="HTDisplay" class="">
1786                 <input
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.Cmd" sid="1"
type="hidden" />
1787                 <div class="action">
1788                     <a
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.ClearHistory"
sid="1"
realname="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.ClearHistor
y" cmd="ClearHT" href="?cmd=ClearHT&" onclick="return false;"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.ClearHistory">
1789                     Clear
1790                 </a>
1791             <a

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name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.HistoryToggle"
sid="1"
realname="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.HistoryToggle"
class="HTOn" cmd="HTOff" href="?cmd=HTOff&" onclick="return false;"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.HistoryToggle">
1792         Turn Off
1793     </a>
1794     <a
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.HistoryToggle"
sid="2"
realname="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.HistoryToggle"
class="HTOff" cmd="HTOn" href="?cmd=HTOn&" onclick="return false;"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.HistoryToggle">
1795         Turn On
1796     </a>
1797 </div>
1798 <ul id="activity">
1799     <li class="ra_rcd ralinkpopper two_line">
1800         <a class="htb ralinkpopperctrl" ref="log$=activity"
href="/portal/utils/pageresolver.fcgi?recordid=1288364159219586">Aqp2 aquaporin 2
(collecting duct) [Rattus norvegicus]</a>
1801         <div class="ralinkpop offscreen_noflow">Aqp2 aquaporin 2 (collecting
duct) [Rattus norvegicus]<div class="brieflinkpopdesc">Gene ID:25386</div></div>
1802         <div class="tertiary">Gene</div>
1803     </li>
1804     <li class="ra_rcd ralinkpopper two_line">
1805         <a class="htb ralinkpopperctrl" ref="log$=activity"
href="/portal/utils/pageresolver.fcgi?recordid=1288364151673318">aquaporin-2
[Rattus norvegicus]</a>
1806         <div class="ralinkpop offscreen_noflow">aquaporin-2 [Rattus
norvegicus]<div class="brieflinkpopdesc">gi|77539434|ref|NP_037041.2|</div></div>
1807         <div class="tertiary">Protein</div>
1808     </li>
1809     <li class="ra_gry two_line">
1810         <a class="htb" ref="log$=activity"
href="/portal/utils/pageresolver.fcgi?recordid=1288364147727983">aqp2 rat <span
class="number">(17)</span></a>
1811         <div class="tertiary">Protein</div>
1812     </li>
1813 </ul>
1814 <p class="HTOn">Your browsing activity is empty.</p>
1815 <p class="HTOff">Activity recording is turned off.</p>
1816 <p id="turnOn" class="HTOff">
1817     <a
name="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.HistoryOn"
sid="1"
realname="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.HistoryOn"
cmd="HTOn" href="?cmd=HTOn&" onclick="return false;"
id="EntrezSystem2.PEntrez.Gene.Gene_ResultsPanel.HistoryDisplay.HistoryOn">Turn
recording back on</a>
1818 </p>
1819 <a class="seemore" href="/sites/myncbi/recentactivity">See more...</a>
1820 </div>
1821 </div>
1822 </div>
1823
1824 </div>

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1825     </div>
1826 </div>
1827
1828     <div id="NCBIFooter_dynamic">
1829     <div class="breadcrumbs">You are here:
1830         <span id="breadcrumb_text"><a href="/guide/">NCBI</a>
1831         &gt; <a href="http://www.ncbi.nlm.nih.gov/guide/genes-
expression/">Genes & Expression</a>
1832
1833         &gt; Gene</span></div>
1834     <a id="help-desk-link" class="help_desk" target="_blank" href="/sites/ehelp?
&Ncbi_App=entrez&Db=gene&Page=full_report&Snapshot=/projects/entr
ez/Entrez@3.19&Time=2010-10-29T10:55:59-04:00&Host=portal201"
onclick="window.open('/sites/ehelp?
&Ncbi_App=entrez&Db=gene&Page=full_report&Snapshot=/projects/entr
ez/Entrez@3.19&Time=2010-10-29T10:55:59-
04:00&Host=portal201','HelpDesk','resizable=no,scrollbars=yes,location=no,sta
tus=yes,menubar=no,top=50,left=200,width=720,height=695');return false;">Write to
the Help Desk</a>
1835     <noscript></noscript>
1836 </div>
1837     <div xmlns="http://www.w3.org/1999/xhtml" class="footer" id="footer"
xml:base="http://127.0.0.1/sites/static/header_footer/">
1838     <div class="crest"></div>
1839
1840     <div class="subfooter">
1841         <h2 class="offscreen_noflow">Simple NCBI Directory</h2>
1842         <ul class="foot_list" id="getting_started">
1843             <li><h3>Getting Started</h3></li>
1844
1845             <li><a href="/bookshelf/br.fcgi?book=helpcollect">NCBI Help
Manual</a></li>
1846             <li><a href="/books/bv.fcgi?rid=handbook.TOC&depth=2">NCBI
Handbook</a></li>
1847             <li><a href="/guide/training-tutorials/">Training &
Tutorials</a></li>
1848         </ul>
1849
1850         <ul class="foot_list" id="resources"><li><h3>
1851             Resources
1852 </h3></li><li><a href="/guide/literature/">Literature</a></li><li><a
href="/guide/dna-rna/">DNA & RNA</a></li><li><a
href="/guide/proteins/">Proteins</a></li><li><a href="/guide/sequence-
analysis/">Sequence Analysis</a></li><li><a href="/guide/genes-expression/">Genes
& Expression</a></li><li><a href="/guide/genomes-maps/">Genomes &
Maps</a></li><li><a href="/guide/domains-structures/">Domains &
Structures</a></li><li><a href="/guide/genetics-medicine/">Genetics &
Medicine</a></li><li><a href="/guide/taxonomy/">Taxonomy</a></li><li><a
href="/guide/data-software/">Data & Software</a></li><li><a
href="/guide/training-tutorials/">Training & Tutorials</a></li><li><a
href="/guide/homology/">Homology</a></li><li><a href="/guide/small-
molecules/">Small Molecules</a></li><li><a
href="/guide/variation/">Variation</a></li></ul>
1853         <ul class="foot_list" id="popular">
1854             <li><h3>Popular</h3></li>
```

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1855     <li><a href="/pubmed/">PubMed</a></li>
1856     <li><a href="/nucleotide/">Nucleotide</a></li>
1857     <li><a href="http://blast.ncbi.nlm.nih.gov/">BLAST</a></li>
1858     <li><a href="http://www.pubmedcentral.nih.gov/"
class="newdomain">PubMed Central</a></li>
1859     <li><a href="/gene/">Gene</a></li>
1860     <li><a href="/books/">Bookshelf</a></li>
1861     <li><a href="/protein/">Protein</a></li>
1862     <li><a href="/omim/">OMIM</a></li>
1863     <li><a href="/genome/">Genome</a></li>
1864     <li><a href="/snp/">SNP</a></li>
1865     <li><a href="/Structure/">Structure</a></li>
1866   </ul>
1867   <ul class="foot_list" id="featured">
1868     <li><h3>Featured</h3></li>
1869     <li><a href="/Genbank/">GenBank</a></li>
1870     <li><a href="/refseq/">Reference Sequences</a></li>
1871     <li><a href="/mapview/">Map Viewer</a></li>
1872     <li><a href="/genomeprj">Genome Projects</a></li>
1873     <li><a href="/genome/guide/human/">Human Genome</a></li>
1874     <li><a href="/genome/guide/mouse/">Mouse Genome</a></li>
1875     <li><a href="/genomes/FLU/">Influenza Virus</a></li>
1876     <li><a href="/tools/primer-blast/">Primer-BLAST</a></li>
1877     <li><a href="/Traces/sra/">Sequence Read Archive</a></li>
1878   </ul>
1879   <ul class="foot_list" id="info">
1880     <li><h3>NCBI Information</h3></li>
1881     <li><a href="/About/">About NCBI</a></li>
1882     <li><a href="/CBBresearch/">Research at NCBI</a></li>
1883     <li><a href="/bookshelf/br.fcgi?book=newsnabi">NCBI
Newsletter</a></li>
1884     <li><a href="/Ftp/">NCBI FTP Site</a></li>
1885   </ul>
1886 </div>
1887
1888
1889   <div id="ncbifooter" class="contact_info">
1890     <div id="footer-contents-right">
1891       <a href="http://www.nih.gov" title="NIH" class="nih_img_link
newdomain">NIH</a>
1892       <a href="http://www.dhhs.gov" title="DHHS" class="dhhs_img_link
newdomain">DHHS</a>
1893       <a href="http://www.usa.gov" title="USA.gov" class="usagov_img_link
newdomain">USA.gov</a>
1894
1895     </div>
1896     <div id="footer-contents-left">
1897
1898       <a href="/About/disclaimer.html">Copyright</a> | <a
href="/About/disclaimer.html#disclaimer">Disclaimer</a> |
1899       <a href="http://www.nlm.nih.gov/privacy.html"
class="newdomain">Privacy</a> | <a
href="/About/accessibility.html">Accessibility</a> | <a
href="/About/glance/contact_info.html">Contact</a>
1900     <p class="address vcard">
1901       <span class="url">
1902         <a class="fn url newdomain"
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1903 href="http://www.ncbi.nlm.nih.gov">National Center for
1904 Biotechnology Information</a>,
1905 </span> <span class="org url"><a
1906 href="http://www.nlm.nih.gov/">U.S. National Library of Medicine</a></span>
1907 <span class="adr">
1908 <span class="street-address">8600 Rockville Pike</span>,
1909 <span class="locality">Bethesda</span>
1910 <span class="region">MD</span>, <span class="postal-
1911 code">20894</span>
1912 <span class="country-name">USA</span>
1913 </span>
1914 </p>
1915 </div>
1916 <script type="text/javascript"
1917 src="/portal/portal3rc.fcgi/rlib/js/InstrumentOmniureBaseJS/InstrumentNCBIBaseJS
1918 /InstrumentPageStarterJS.js"></script>
1919 </div>
1920 </div>
1921 <input type="hidden" name="p$a" id="p$a" /><input type="hidden"
1922 name="p$l" id="p$l" value="EntrezSystem2" /><input type="hidden" name="p$st"
1923 id="p$st" value="entrez" /><input name="SessionId" id="SessionId"
1924 value="CE8D3F2ECC59B781_0073SID" disabled="disabled" type="hidden" /><input
1925 name="Snapshot" id="Snapshot" value="/projects/entrez/Entrez@3.19"
1926 disabled="disabled" type="hidden" /></form>
1927 <!--
1928 CE8D3F2ECC59B781_0073SID:/projects/entrez/Entrez:3.19:portal201:v2.10.3.r203996:
1929 Fri, Sep 03 2010 12:42:15--></body>
1930 </html>
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