

Project presentation using TWiki

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What is a wiki ?

Definitions of **Wiki** on the Web:

- A website or similar online resource which allows users to add and edit content collectively.
www.parliament.vic.gov.au/sarc/E-Democracy/Final_Report/Glossary.htm
- A collection of websites of hypertext, each of them can be visited and edited by anyone. "Wiki wiki" means "rapidly" in the Hawaiian language.
www.cpsr-peru.org/english_version/privacy_ngo/part4
- online collaboration model and tool that allows any user to edit some content of webpages through a simple browser.
mobileman.projects.supsi.ch/glossary.html
- A wiki is a web application that allows users to add content, as on an Internet forum, but also allows anyone to edit the content. Wiki also refers to the collaborative software used to create such a website (see Wiki software).
en.wikipedia.org/wiki/WIKI

What is Twiki ?

- A structured wiki
- looks and feels like a normal Intranet or Internet web site. However it also has a **Edit** link at the bottom of every topic (web page), everybody can change a topic or add content by just using a browser.

How do I start ?

1. <http://www.dbrm.se/twiki/bin/view/BioinfoCourse/WebHome>
2. Login to the page to be able to edit the page. Register for an account if you don't have a login id.

The screenshot shows the website interface for the Bioinformatics for Cell Biologists course. At the top right, there are links for 'Login Register Post'. Below the main content area, a box highlights the 'Bioinformatics Examination' link with the text 'Click to access the Bioinformatics Examination page'.

Where do I access my project page ?

The screenshot shows the dbm Research School website. At the top right, there are links for "Login Register Print". A callout box points to these links with the text "Login to be able to edit the pages". On the left side, there is a "NAVIGATION" menu with options like "Main Page", "Create New Topic", "Index", and "Changes". Below this is a "WEBS" section with links for "Home" and "dbmCourse". In the main content area, there is a "Sample Project Page" link. A callout box points to this link with the text "Click here to see previous course's project pages". At the bottom of the page, there is a "Web pages of the students" section with a list of links: "dbm2008", "dbm2009", "dbm2010", and "dbm2011". A callout box points to this list with the text "Click to edit your team's project page".

Information to include

- Project title
- Names of team members
- Introduction, discussion and conclusion
- Links to the Bioinformatics resources used

Starting point – Create your group’s presentation page

Change your group's project title here

Reference information

Edit project information here

Sample project page

Click to edit information

Please include your group's project title and team members' names

Introduction to the topic

Additional information from Pubmed

Bioinformatics analysis carried out

- Database searching using Entrez & ExPasy
- Sequence similarity searching using BLAST & BLAT
- Finding open reading frame
- Translating gene sequence to protein
- Multiple sequence alignment using CLUSTALW
- Secondary structure prediction using Web EMBOSS (Garnier)

Results

D. melanogaster BLAT Results

BLAT Search Results

ACTIONS	QUERY	SCORE	START	END	QSIZE	IDENTITY	CHRO	STRAND	START	END	SPAN	
browser	details	YourSeq	28	3711	3741	10111	96.8%	2L	-	2934001	2934052	52
browser	details	YourSeq	23	9581	9606	10111	96.2%	2R	-	953703	953741	39
browser	details	YourSeq	23	4287	4311	10111	96.0%	2L	+	19893665	19893689	25
browser	details	YourSeq	22	5900	5931	10111	84.4%	Uextra	-	16886636	16886667	32
browser	details	YourSeq	20	8399	8418	10111	100.0%	2R	-	10210478	10210497	20
browser	details	YourSeq	20	9507	9526	10111	100.0%	2L	-	12754287	12754306	20

BLAT gene sequence against the UCSC Genome Browser

1: 6334379-634379-PD Isoform 0 [Drosophila melanogaster]

GeneID: 38533

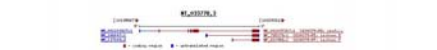
updated 22-Mar-2009

Summary

Gene name: [CD4379](#)
 Primary source: [Drosophila melanogaster](#)
 Access tag: [Dmel_024379](#)
 Gene type: protein coding
 RefSeq status: reviewed
 Organism: [Drosophila melanogaster](#)
 Lineage: Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Musciformia; Ephyraeidae; Drosophilidae; Drosophila
 Also known as: [CD4379](#)
 CDF locus tags: [CD4379A](#), [CD4379B](#), [Dmel_024379A](#), [Dmel_024379B](#)

Genomic regions, transcripts, and products

Go to reference sequence details



Information from the Entrez Gene database on interaction and articles from Pubmed

Genomic context



Bibliography

Related Articles in PubMed

[PubMed](#) links

GeneID: Gene References into Functions

[PubMed](#) | [PubMed](#)

Interactions

Description	Protein	Interactant	Other Gene	Complex	Source	Public
Transcript	Drosophila melanogaster	Drosophila melanogaster	Drosophila melanogaster		BioGRID	PubMed
Transcript	Drosophila melanogaster	Drosophila melanogaster	Drosophila melanogaster		BioGRID	PubMed
Transcript	Drosophila melanogaster	Drosophila melanogaster	Drosophila melanogaster		BioGRID	PubMed
Transcript	Drosophila melanogaster	Drosophila melanogaster	Drosophila melanogaster		BioGRID	PubMed
Transcript	Drosophila melanogaster	Drosophila melanogaster	Drosophila melanogaster		BioGRID	PubMed
Transcript	Drosophila melanogaster	Drosophila melanogaster	Drosophila melanogaster		BioGRID	PubMed
Transcript	Drosophila melanogaster	Drosophila melanogaster	Drosophila melanogaster		BioGRID	PubMed
Transcript	Drosophila melanogaster	Drosophila melanogaster	Drosophila melanogaster		BioGRID	PubMed
Transcript	Drosophila melanogaster	Drosophila melanogaster	Drosophila melanogaster		BioGRID	PubMed
Transcript	Drosophila melanogaster	Drosophila melanogaster	Drosophila melanogaster		BioGRID	PubMed

Bioinformatics Resources Used

- Database searching
 - ENTREZ: <http://www.ncbi.nlm.nih.gov/Entrez/>
 - EXPASY: <http://www.expasy.org>
 - UCSC Genome browser: <http://genome.ucsc.edu/>
 - Sequence analysis
 - *NCBI ORF Finder: <http://www.ncbi.nlm.nih.gov/projects/gorf/>
 - ClustalW: <http://www.ebi.ac.uk/Tools/clustalw2/index.html>
 - Web EMBOSS:
 - <http://teacher.bmc.uu.se/UPPSALA06/EMBOSS/>
- * Watch on You Tube: How to use the ORF Finder:
<http://www.youtube.com/watch?v=FbhJUx7K5rE>

How do I put it together ?

The screenshot shows a document titled "Bioinformatics Resources Used" with a navigation sidebar on the left. The main content is a numbered list of steps:

- The *brn-10* gene sequence was obtained using Entrez to search the Genbank databases. Results show 3 hits, the correct one is accession ID [D00984](#). *Caenorhabditis elegans* isolate D5EP transposon-like protein gene, complete cds, brn-10-P03 gene cluster, complete. Not much information is available about this gene in the database. There is no Entrez Gene or RefSeq records.
- For further analysis to find out more about this gene, the gene sequence, [brn10.ctd](#) was extracted in FASTA format.
- We used the gene sequence to:
 - find possible matches to the chromosomal location in the model organisms available
 - derive open reading frames (ORF)
 - translate into protein sequence

Results:
 Searching against the [UCSC Genome browser](#) has found the best match in the [Drosophila chromosome 2L, wmd 2R](#).
[motoneur_#0](#)
 Clicking on the browser leads you to more information from databases such as:

- [Ensembl Gene](#) (links to interaction information and PubMed articles)
- [UniProt](#) (Gene expression profile)

- The [gorf](#) ORF Finder found several open reading frames. CDS position 2199..4052 Frame +3 was translated into its protein sequence, [brn10.ctd](#).
- The protein sequence was used to search against the [Expasy](#) databases using BLAST to find similar proteins. Results show the best match comes from BRYP with accession ID Accession number [A2CLZ2](#) from the TREMEL database. [brn10.ctd](#)
- [CLUSTALW](#) was used to find out if BRYP has conserved residues by comparing it to sequences from other similar proteins, [D5EAP](#).
- [Qscan](#) (Web EMBOSS) was used to predict the secondary structure of the protein sequence. Results:
 The multiple sequence alignment show shows the following conserved residues.
[clustaln.ctd](#)

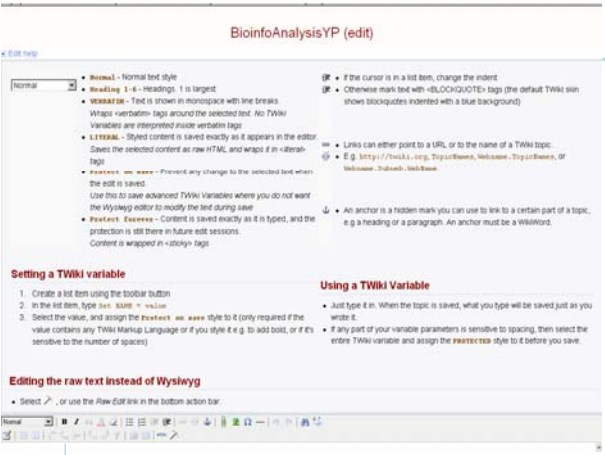
```

FPQGGSD (position 7 to 13) - coil
YDFGPAAL (position 55 to 63) - beta sheet
AKRDLQETNA (position 85 to 93) - coil
FHSRPM (position 191 to 197) - helix
VSHF (position 219 to 222) - beta sheet

```

You need to learn some wiki syntax

- TWiki topic name always has a fixed format: two or more words with initial capitals, run together to form a WikiWord .
- When you write the name of a topic, it becomes a link. Example: To write a custom link label, use bracket notation: `[[GroupOne]][Group One]]` – this becomes: Group One



The screenshot shows the TWiki editing interface for 'BioinfoAnalysisYP'. It includes a toolbar with various editing tools, a list of editing instructions, and sections for 'Setting a TWiki variable' and 'Using a TWiki Variable'. A blue box on the right contains the text 'Reference information on wiki syntax you need to know' with an arrow pointing to the editing instructions. A blue box at the bottom left contains the text 'Tools to help you edit information, create hyperlinks, format text and add images' with an arrow pointing to the toolbar. The text 'I will do a demo this afternoon' is written in the bottom right area of the slide.

Reference information on wiki syntax you need to know

Tools to help you edit information, create hyperlinks, format text and add images

I will do a demo this afternoon

Where to Get More Information

E-mail yunping@nus.edu.sg

Any Questions ?

