

1. To je ak zaporedje za človeški CDK2: Blast – prvi zadetek

Descriptions		Graphic Summary	Alignments	Taxonomy				
Sequences producing significant alignments								
Download Select columns Show 100								
select all 100 sequences selected								
GenPept Graphics Distance tree of results Multiple alignment MSA Viewer								
Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Per. Ident	Acc. Len	Accession
RecName: Full=Cyclin-dependent kinase 2; AltName: Full=Cell division protein kinase 2; AltName: Full=p33 protein ...	Homo sapiens	616	616	100%	0.0	100.00%	298	P24941.2
RecName: Full=Cyclin-dependent kinase 2; AltName: Full=Cell division protein kinase 2 [Bos taurus]	Bos taurus	610	610	100%	0.0	98.66%	298	Q5E9Y0.1
RecName: Full=Cyclin-dependent kinase 2; AltName: Full=Cell division protein kinase 2 [Cricetulus griseus]	Cricetulus griseus	610	610	100%	0.0	98.66%	298	O55076.1
RecName: Full=Cyclin-dependent kinase 2; AltName: Full=Cell division protein kinase 2 [Rattus norvegicus]	Rattus norvegicus	610	610	100%	0.0	98.66%	298	Q63699.1
RecName: Full=Cyclin-dependent kinase 2; AltName: Full=Cell division protein kinase 2 [Mesocricetus auratus]	Mesocricetus aur...	608	608	100%	0.0	98.32%	298	P48963.1
RecName: Full=Cyclin-dependent kinase 2; AltName: Full=Cell division protein kinase 2 [Mus musculus]	Mus musculus	588	588	100%	0.0	85.26%	346	P97377.2
RecName: Full=Cyclin-dependent kinase 2; AltName: Full=Cell division protein kinase 2 [Carassius auratus]	Carassius auratus	564	564	100%	0.0	90.60%	298	P43450.1
RecName: Full=Cyclin-dependent kinase 2; AltName: Full=CDC2 homolog E91 protein kinase; AltName: Full=Cell di... Xenopus laevis	Xenopus laevis	563	563	99%	0.0	89.53%	297	P23437.3

2. Uni Prot accession code: **P24941** – Subcellular Location

3. Fosforilacija treonina in tirozina. Fosforilacija na Thr160 promovira kinazno aktivnost, na Tyr15 pa jo zavira.

4. Aspartat 127 (UniProt Function – Features ali poravnava dveh ali več homologov v UniProt, anotacije)

Highlight properties Showing "Active site" in "sp|O55076|CDK2_CRIGR" View: Continuous Wrapped

<input type="checkbox"/> sp O55076 CDK2_CRIGR	MENFQKVEKIGEGTYGVVYKAKNKLGTGEVVALKKIRLDTETEGVPSTAIRESLLK	56
<input type="checkbox"/> sp Q5E9Y0 CDK2_BOVIN	MENFQKVEKIGEGTYGVVYKAKNKLGTGEVVALKKIRLDTETEGVPSTAIRESLLK	56
<input type="checkbox"/> sp P24941 CDK2_HUMAN	MENFQKVEKIGEGTYGVVYKAKNKLGTGEVVALKKIRLDTETEGVPSTAIRESLLK	56
O55076:Active site		
<input type="checkbox"/> sp O55076 CDK2_CRIGR	ELNHPNIVKLLDVIHTENKLYLVFVFLHQDLKKFMDASAVTGIPLPLIKSYLFQLL	112
<input type="checkbox"/> sp Q5E9Y0 CDK2_BOVIN	ELNHPNIVKLLDVIHTENKLYLVFVFLHQDLKKFMDASALVTGIPLPLIKSYLFQLL	112
<input type="checkbox"/> sp P24941 CDK2_HUMAN	ELNHPNIVKLLDVIHTENKLYLVFVFLHQDLKKFMDASALVTGIPLPLIKSYLFQLL	112
O55076:Active site		
<input type="checkbox"/> sp O55076 CDK2_CRIGR	QGLAFCHSHRVLHRDLKPNLLINAEGSIKLADFGGLARAFGVPVVRTYTHEVVTLWY	168
<input type="checkbox"/> sp Q5E9Y0 CDK2_BOVIN	QGLAFCHSHRVLHRDLKPNLLINADGSIKLADFGGLARAFGVPVVRTYTHEVVTLWY	168
<input type="checkbox"/> sp P24941 CDK2_HUMAN	QGLAFCHSHRVLHRDLKPNLLINTEGAIKLADFGGLARAFGVPVVRTYTHEVVTLWY	168

5. Nekonzervativni aminokislinski ostanki so vidni na prejšnji sliki. V Swiss Model vstavimo dano ak zaporedje v FASTA formatu in kliknemo *build model*.

SWISS-MODEL Modelling Repository Tools Documentation Log in Create Account

All Projects

CDK2_HUMAN P24941 Cyclin-dependent kinase 2 Created: yesterday at 13:44

Summary Templates 13 Models 1 Project Data

Model Results Order by: GMQE

Model 01

Structure Assessment

Compare

Download files Display files

PDB format

ModelCIF format

DeepView format

Model Report

Metadata

Delete Model

Oligo-State Monomer

Ligands 1 x EZV

OMEANDisCo Local

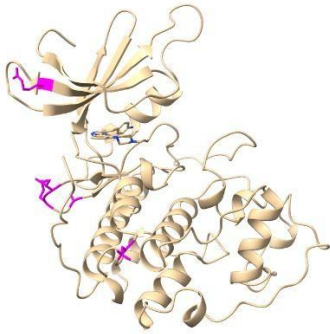
Real Local

Cartoon

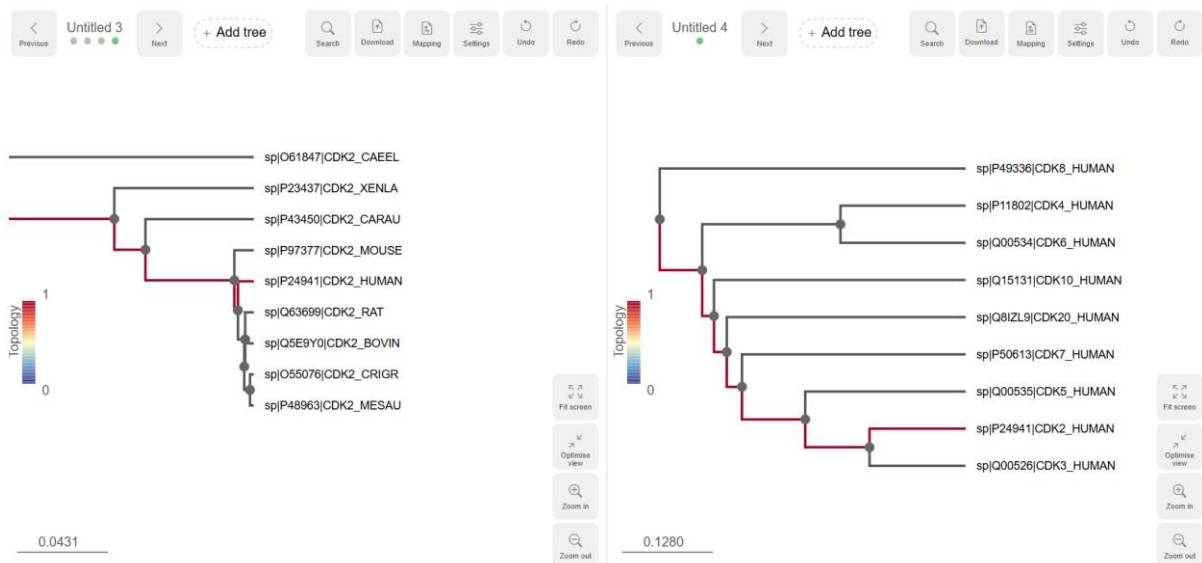
Chimera X

Command:

sel :137, 138, 140, 22, 96



6. Pri poravnavi človeških homologov je v primerjavi s poravnavo ortologov veliko več vrzeli, veliko regij ima samo . ali ;, popolnoma ohranjenih mest * je manj, pri ortologih pa so dolgi bloki *. To je pričakovano, saj smo primerjali poravnavo različnih članov CDK družine s poravnavo istega proteina znotraj različnih organizmov. CDK2 je evolucijsko dobro ohranjen protein. Edina izrazita razlika med ortologi je pri *Caenorhabditis elegans*, ki ima daljši N-konec.



7. C-končni del pri ciklinu A1 in A2 je bolj ohranjen, saj vidimo sklenjeno črto.

Dotmatcher: fasta::emboss-dotmatcher-l20260511-161516-04...
(windowsize = 10, threshold = 23.00 11/05/26)

