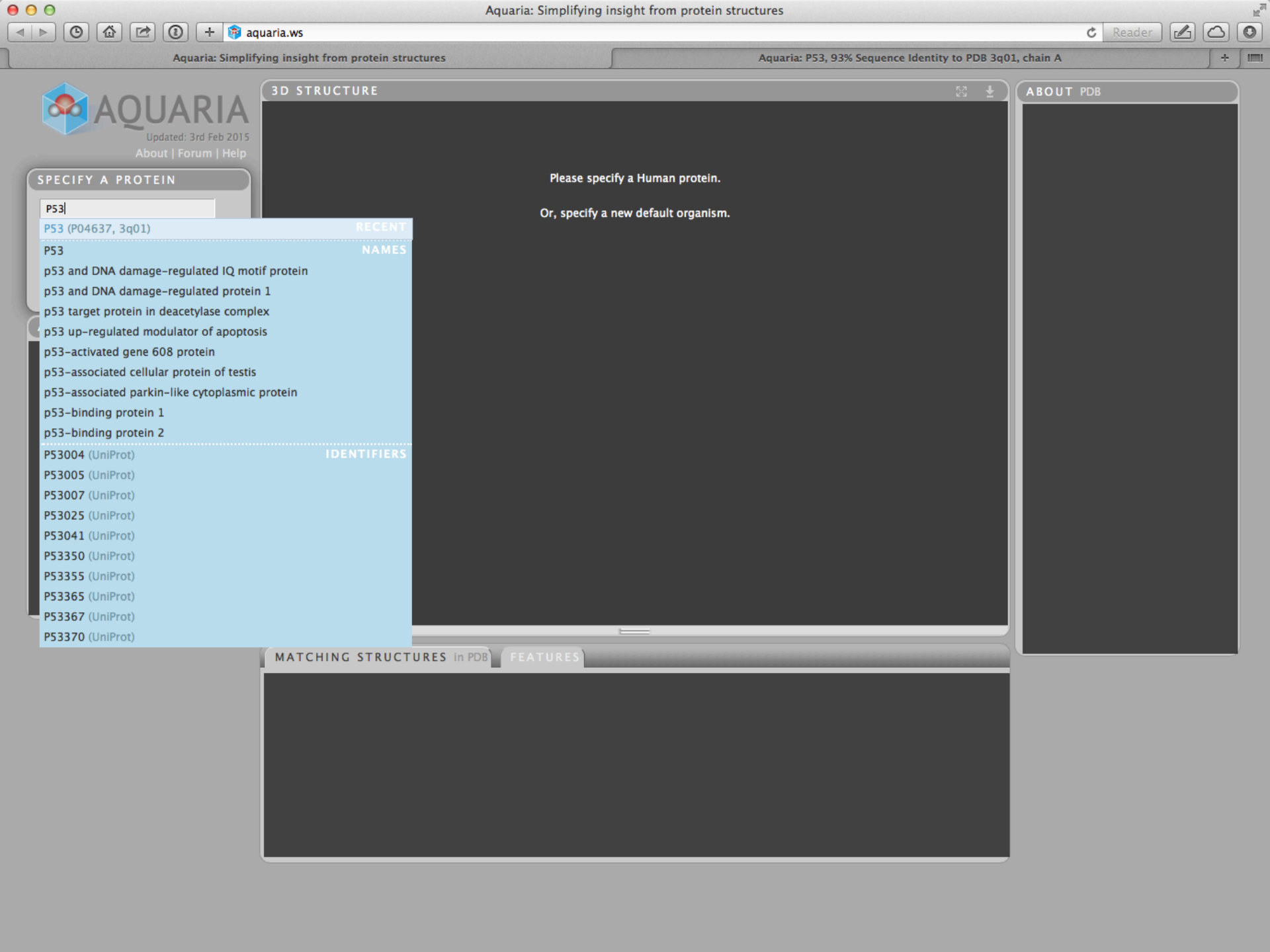

Aquaria: Simplifying insight from protein structures
aquaria.ws
Reader
Aquaria: Simplifying insight from protein structures
Aquaria: P53, 93% Sequence Identity to PDB 3q01, chain A
AQUARIA
Updated: 3rd Feb 2015
About | Forum | Help
SPECIFY A PROTEIN
P53
P53 (P04637, 3q01) RECENT
P53 NAMES
p53 and DNA damage-regulated IQ motif protein
p53 and DNA damage-regulated protein 1
p53 target protein in deacetylase complex
p53 up-regulated modulator of apoptosis
p53-activated gene 608 protein
p53-associated cellular protein of testis
p53-associated parkin-like cytoplasmic protein
p53-binding protein 1
p53-binding protein 2
P53004 (UniProt) IDENTIFIERS
P53005 (UniProt)
P53007 (UniProt)
P53025 (UniProt)
P53041 (UniProt)
P53350 (UniProt)
P53355 (UniProt)
P53365 (UniProt)
P53367 (UniProt)
P53370 (UniProt)
3D STRUCTURE
Please specify a Human protein.
Or, specify a new default organism.
ABOUT PDB
MATCHING STRUCTURES in PDB
FEATURES

AQUARIA

Updated: 3rd Feb 2015

About | Forum | Help

SPECIFY A PROTEIN

Protein name or ID

Synonyms: P53, Cellular tumor antigen p53, Antigen NY-CO-13,... [+]

Gene: TP53

Organism

Homo sapiens, Human

ABOUT P53

FUNCTION: Acts as a tumor suppressor in many tumor types; induces growth arrest... [+]

COFACTOR: Binds 1 zinc ion per subunit.

SUBUNIT: Interacts with AXIN1. Probably part of a complex consisting of TP53,... [+]

INTERACTION: Self; NbExp=7; IntAct=EBI-366083, EBI-366083; P03070:- (xeno); NbExp=1... [+]

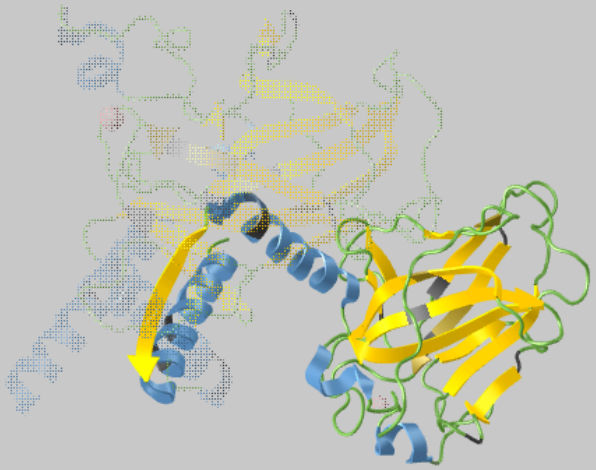
SUBCELLULAR LOCATION:

- Cytoplasm. Nucleus. Nucleus, PML body. Endoplasmic reticulum.

more details (8)

3D STRUCTURE P53 sequence aligned onto TP53 structure from PDB 3q01-A (93% sequence identity)

File Edit Color Representation View Tools ✓ Autofocus



COLORING

Secondary Structure
- Strand
- Helix
- Coil
- Turn
- DNA/RNA

Sequence Similarity
- Identical
- Conserved
- Not conserved
- Insertion

SELECTION
<empty>

ABOUT PDB 3q01

Biological Assembly

An induced fit mechanism regulates p53 DNA binding kinetics to confer sequence specificity.

Petty et al., EMBO J (2011)

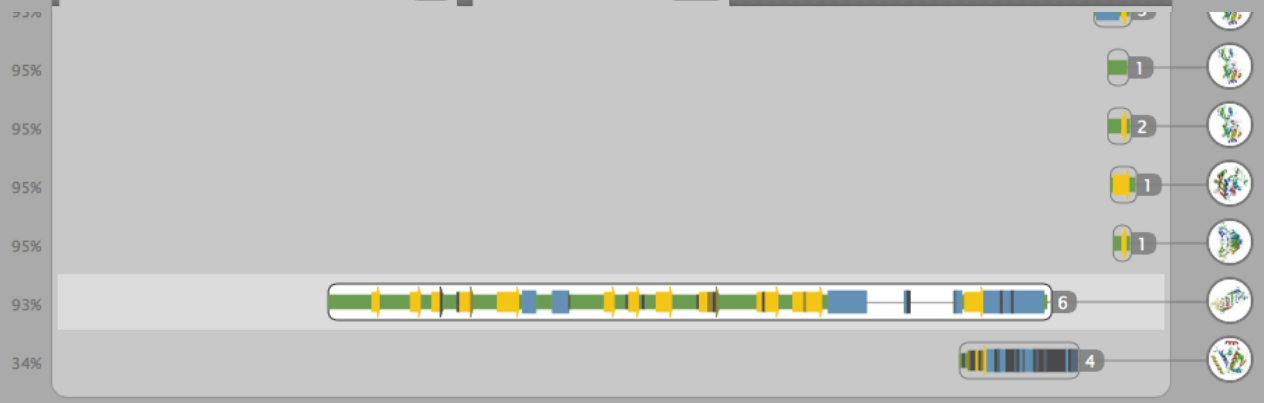
Abstract: The p53 tumour suppressor gene, the most frequently mutated gene in human cancer, encodes a transcription factor that contains sequence-specific DNA binding and homo-tetramerization domains. Interestingly, the affinities of p53 for specific and non-specific DNA sites differ by only one order of magnitude, making it hard to understand how this protein recognizes its specific DNA targets in vivo. We describe here the structure of a p53 polypeptide containing both the DNA binding and oligomerization domains in complex with DNA. The structure reveals that sequence-specific DNA binding... [+]

Determined by: X-ray diffraction at 2.1 Å resolution

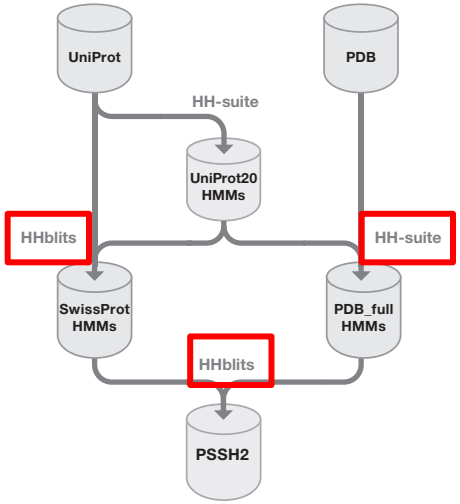
Chain A: TP53 (Cellular tumor antigen P53)

Organism: Homo sapiens

MATCHING STRUCTURES in PDB 133 | FEATURES for P53 1,462



Moving to the cloud



Since 2018

aws

MySQL

MySQL DB for Webfrontend

SQS queue

S3 buckets for file storage

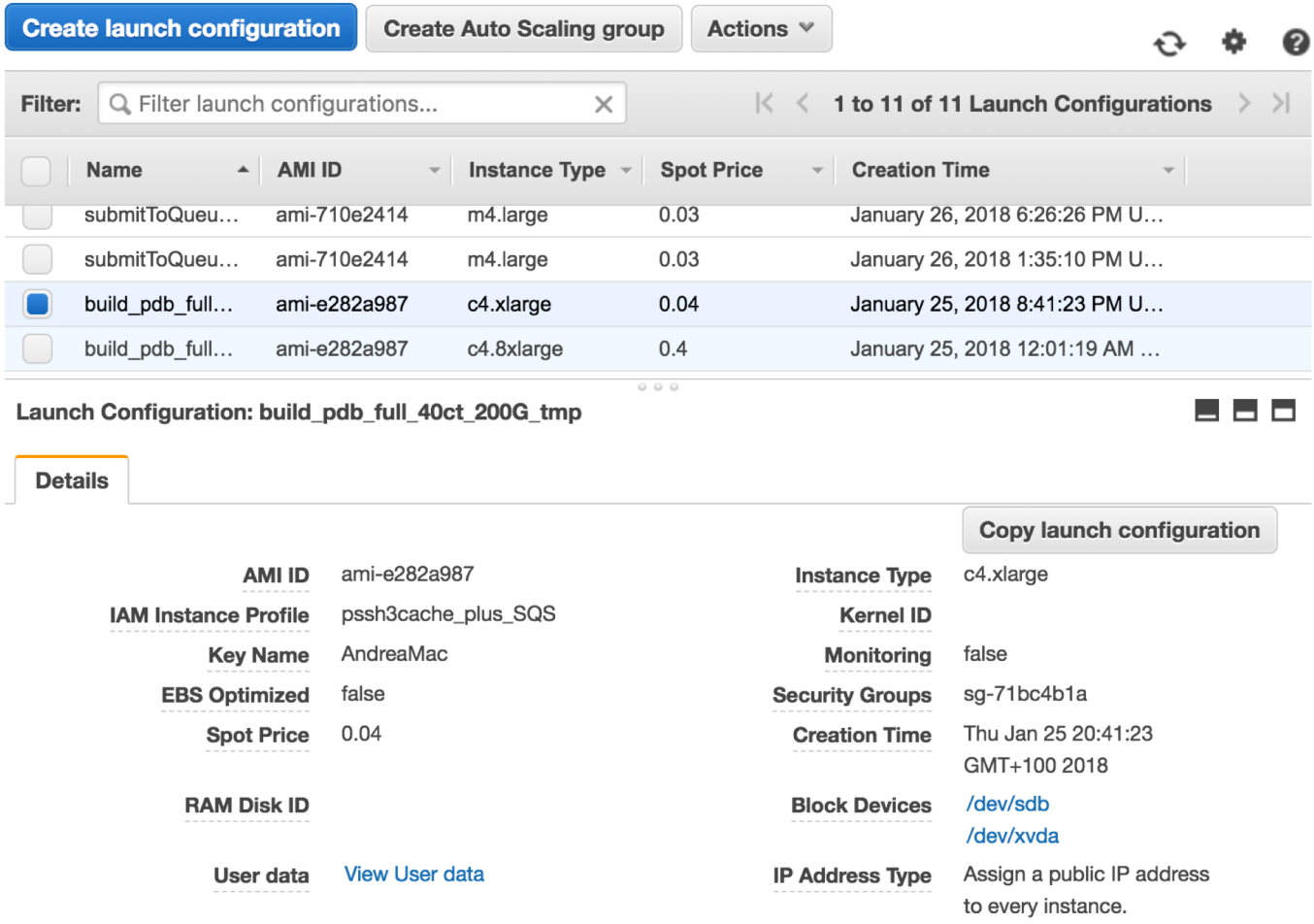
Autoscaling group of spot instances

Until end of 2017

traditional servers

Rostlab cluster

Launch configuration



User data: Automatically configuring machines

```
#!/bin/bash
# script to run as user-data on the node that builds the hhblits database
set -x
exec > >(tee /var/log/user-data.log|logger -t user-data ) 2>&1
yum update -y
yum upgrade -y
yum groupinstall -y "Development Tools”
yum install -y python-pip lvm2 git
yum install -y cmake mysql
yum install -y openmpi-devel
mkdir /mnt/resultData
mkfs -t ext4 /dev/xvdb
mount /dev/xvdb /mnt/resultData/
REGION=`wget -q 169.254.169.254/latest/meta-data/placement/availability-zone -O- | sed
's/.$//'`
mkdir /home/ec2-user/git
chmod a+tw /home/ec2-user/git
cd  /home/ec2-user/git
git clone https://github.com/soedinglab/hh-suite.git
cd hh-suite/
git submodule init
git submodule update
…
```