# Biofinformatics

## Analysis of CDK2 (PDB: 1H1Q) (UniProt accessionnr.: P24941)

Pathology

Clinicaly available drugs

Protein information

The protein encoded by the *cyclin-dependent Kinase 2 (CDK2*) gene is part of a family of serine/ threonine protein kinase which regulates progression through the cell cycle. Its role is especially important during the transition from the G1 to the S phase. the catalic subunit of the cyclin-dependent protein kinase complex and is

Promotes G1/S transition

Critically associated with tumour growth in various types of cancer.

## Related proteins (off-target), based on sequence

1. Target: CDK2 (human)

Sequence length: 298 AA

Status: UniProtKB reviewed

Protein existence: Evidence at protein level

Mass (kDa): 33,93

1. Related target 1: CDK2 (mus musculus (mouse))

Sequence length:346 AA

Identity: P97377 · CDK2\_MOUSES

Status: UniProtKB reviewed (Swiss-Prot)

Protein existence: Evidence at protein level

Mass (kDa): 38,978

1. Related target 2: CDK3 (Human)

Sequence length:305

Identity: CDK3 (UniProt accessionnr.: Q00526)

Status: UniProtKB reviewed (Swiss-Prot)

Protein existence: Evidence at protein level

Mass (kDa): 35,046

**Questions 1:**

* *Which target is more similar compared to the original target?*

Related target 1 is more similar to CDK2 since it is the same protein but in a different animal.

* *Did you expect this?*

Yes, we did expect this, because of the similarity of the protein and the overall genetic similarity between mice and humans.