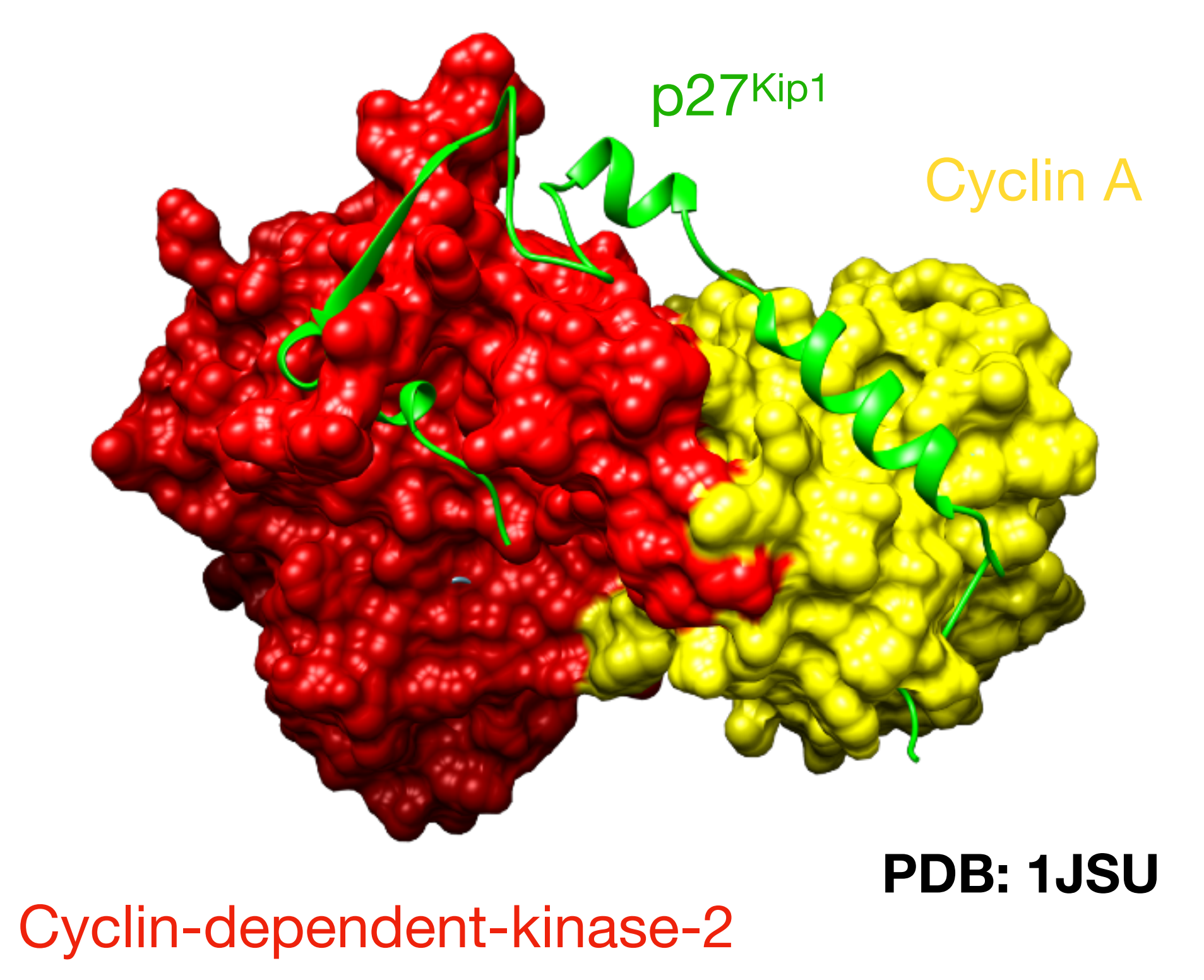
$p27^{Kip1}$ is important for regulating cell cycles

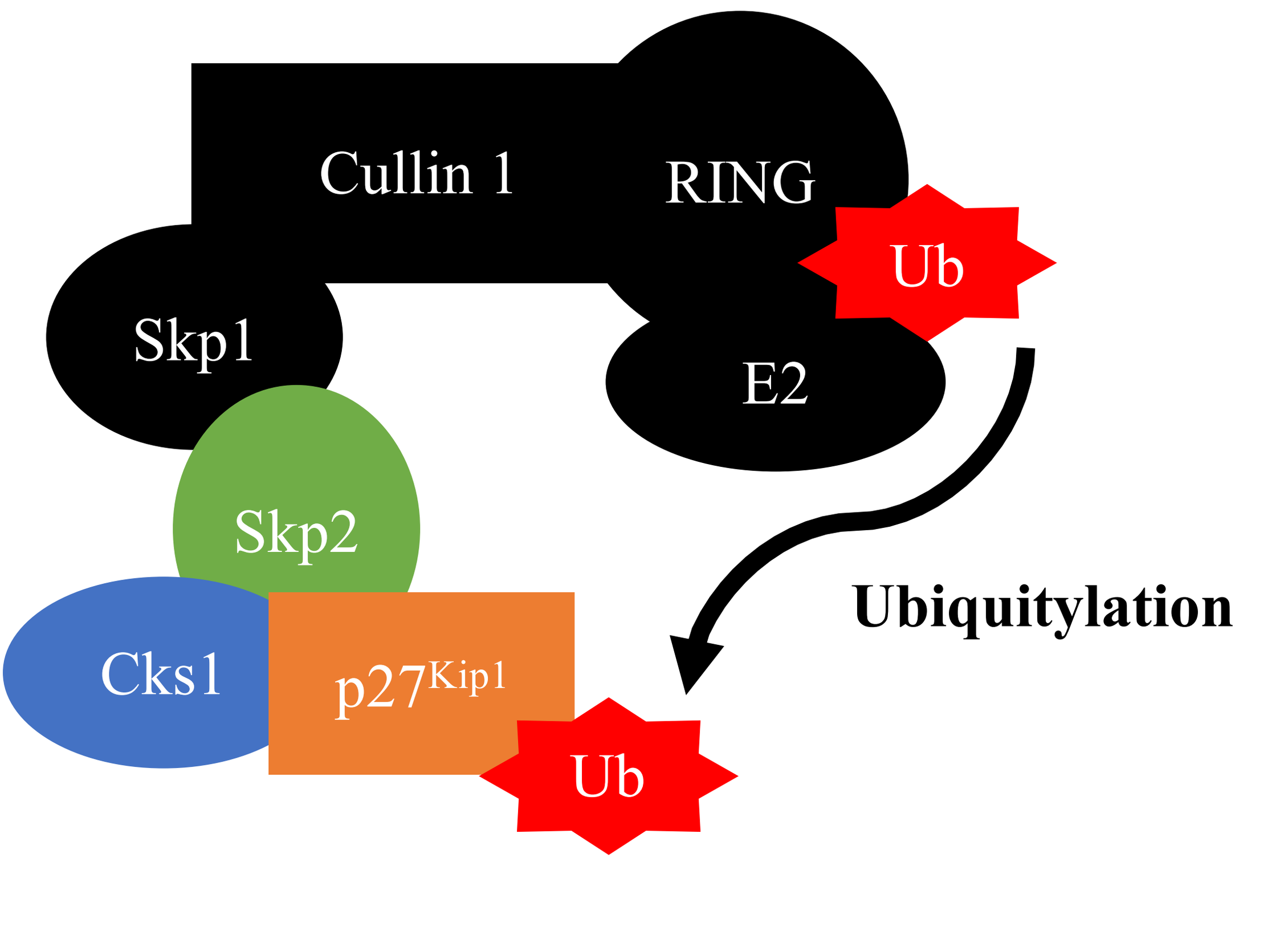

p27Kip1
Cyclin A
PDB: 1JSU
Cyclin-dependent-kinase-2

R. Alicia, et al., *Nature* **382**, 425-331 (1996)

- $p27^{Kip1}$ is a cyclin-dependent-kinase inhibitor that leads to cell-cycle arrest.

- $p27^{Kip1}$ is often referred to as the "tumor suppressor".

- In cancer cells, $p27^{Kip1}$ is frequently inactivated.


Cullin 1
RING
Ub
Skp1
E2
Skp2
Ubiquitylation
Cks1
p27Kip1
Ub

kinase inhibitor that leads to cell-

- $p27^{Kip1}$ is a cyclin-dependent-

- In cancer cells, $p27^{Kip1}$ is

- $p27^{Kip1}$ is often referred to as the

“tumor suppressor”.

cycle arrest.

frequently inactivated.

$p27^{Kip1}$ is degraded by a ubiquitin-dependent process

D. Frescas & M. Pagano, *Nat. Rev. Cancer* **8**, 438-449 (2008)

A. C. Carrano, et al., *Nat. Cell Biol.* **1**, 193-199 (1999)

J. Slingerland & M. Pagano, *J. Cell. Physiol.* **183**, 10-17 (2000)

Skp2: S-phase kinase-associated protein 2

Cks1: Cyclin-dependent kinases regulatory subunit 1