Scientists revealed the activation mechanism of Akt1 protein kinase, which modulates metabolism and cancer proliferation.

**Significance and Impact**

Akt1 protein kinase plays an essential role in cancer proliferation, which defines cancer aggressiveness. Understanding the full functions of the protein could help advance cancer therapies.

**Research Details**

- Previous studies showed a different activation mechanism for Akt1 kinase; however, the studies were performed on the protein in a different state.
- Using biochemical, x-ray crystallographic, and cellular approaches, the team determined that pSer473-Akt activation is driven by an intramolecular interaction.
- The x-ray crystallographic data were taken at NSLS-II AMX and FMX beamlines and at APS sector 31.