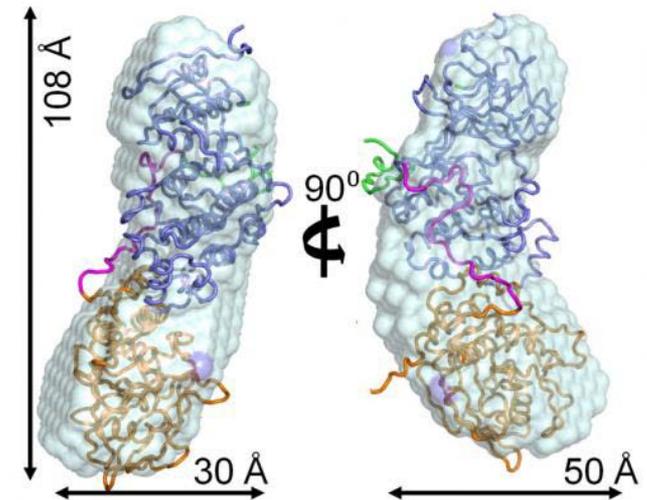


Model of Enzyme's Structure Could Spur New Therapies

- Scientists have determined the structure of an enzyme complex that regulates vital cell functions.
- The complex – known as p38alpha:HePTP – is a member of the MAP kinase family. These are enzymes that regulate cell functions such as growth and inflammation. Diseases that correlate with disruptions to MAP kinase signaling include Alzheimer's disease, rheumatoid arthritis and cancer.
- The researchers used a combination of different techniques to determine the structure, including small-angle x-ray scattering, at NSLS beamline X9, and nuclear magnetic resonance spectroscopy.
- They found a specific area called “KIS” that is responsible for how the p38alpha:HePTP complex forms in its unique way. The next step is to learn more about KIS and the role it could ultimately play in disregulation and disease.
- The new work provides drug developers with a specific and new target to consider in their efforts to find new treatments.



The p38alpha:HePTP enzyme complex, shown in two views rotated 90 degrees, plays a key role in regulating cell functions. Resolving its structure allows new possibilities for fighting diseases that occur because regulation goes wrong. Credit: Peti Lab/Brown University