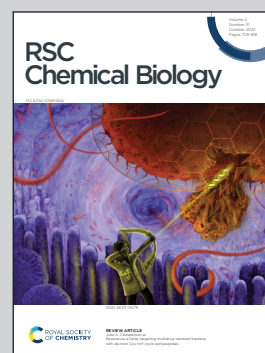


Showcasing research from Professor Deiters' laboratory,
Department of Chemistry, University of Pittsburgh,
Pittsburgh, Pennsylvania, USA

Isoform-specific optical activation of kinase function reveals
p38-ERK signaling crosstalk

Optical activation of protein function through unnatural amino acid mutagenesis offers precise spatiotemporal control with complete genetically defined specificity. This enabled the investigation of four individual protein isoforms of the mitogen-activated protein kinase (MAPK) p38 and the identification of a novel point of crosstalk between two major signalling cascades, the p38/MAPK pathway and the ERK/MAPK pathway. Using precise photoactivated p38 isoforms, it was found that the p38 γ and p38 δ variants are positive regulators of the ERK signalling cascade, while the p38 α and p38 β variants were confirmed as negative regulators.

As featured in:



See Alexander Deiters *et al.*,
RSC Chem. Biol., 2023, 4, 765.