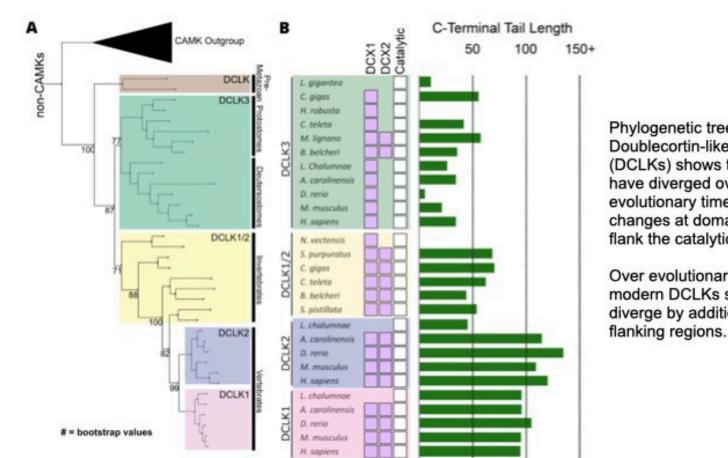
Aarya Venkat

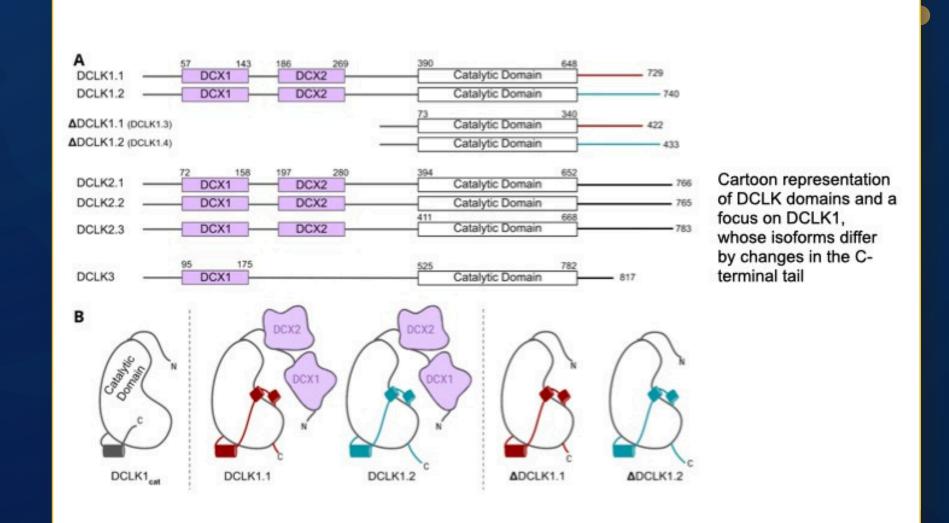
Ph. D. Candidate, Biochemistry and Microbiology Third Year ARCS Scholar Henry/Swensson/ARCS Award

UNIVERSITY OF GEORGIA 1785

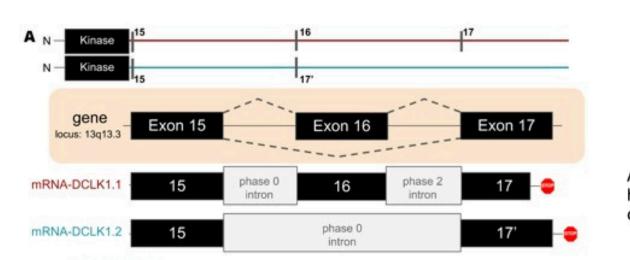
Mechanistic and evolutionary insights into isoform-specific 'supercharging' in DCLK family kinases

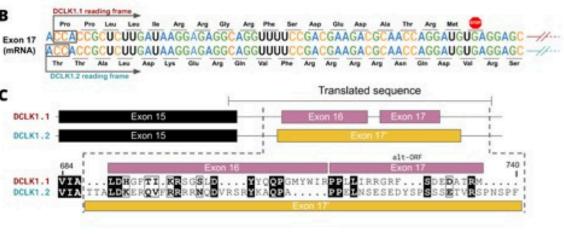


Phylogenetic tree of Doublecortin-like kinases (DCLKs) shows that they have diverged over evolutionary time through changes at domains which flank the catalytic kinase



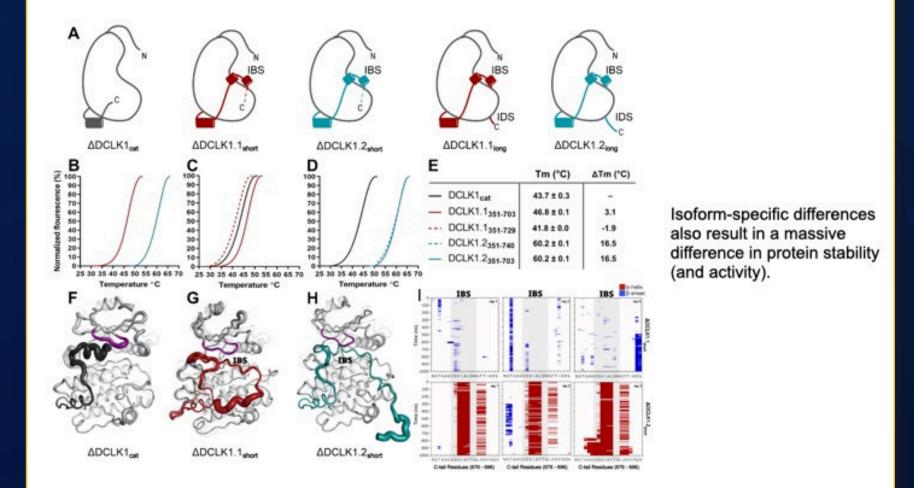
Over evolutionary time, modern DCLKs seem to diverge by addition to these

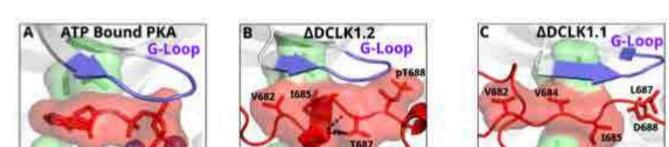


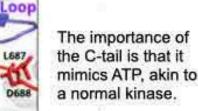


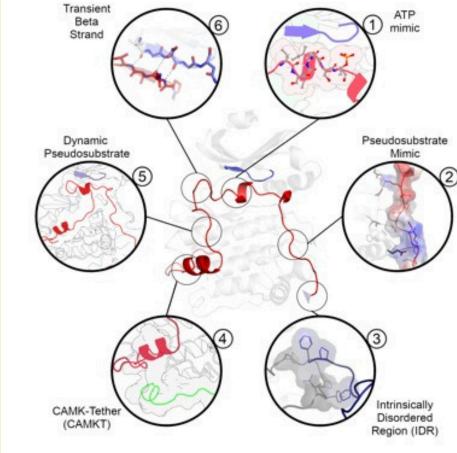
С

Alternative splicing reveals how these isoform-specific changes in the tail arise.

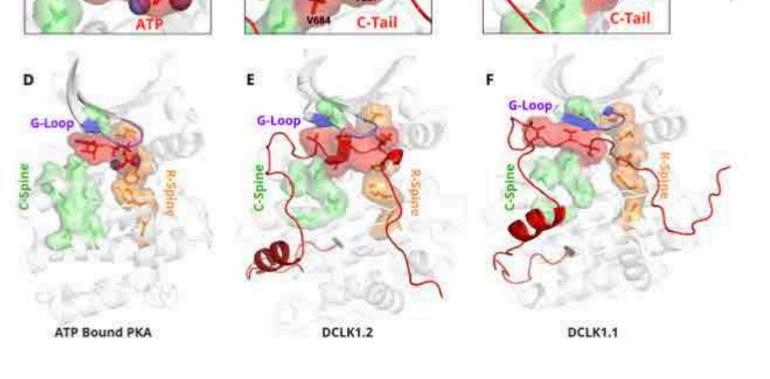












The C-tail acts as an evolutionary Swiss-Army Knife controlling multiple aspects of kinase regulation.

Kinases are crucial for regulation of the cell and are a critical drug target for cancers. Understanding the mechanism of how they self-regulate allows us to better target these enzymes for therapeutic needs.

Igniting

in Georgia

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Scholar-Awards Celebration

November 15, 2023

