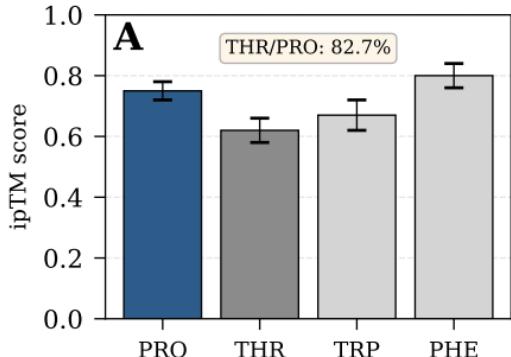
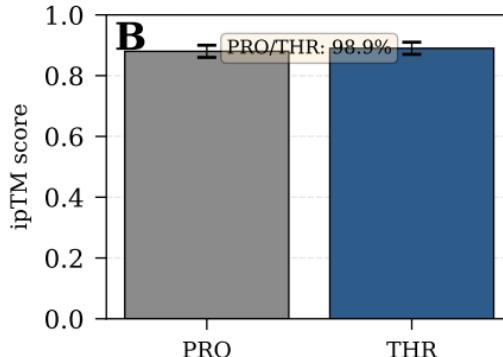


Figure 2: Substrate Binding Specificity Across Evolution

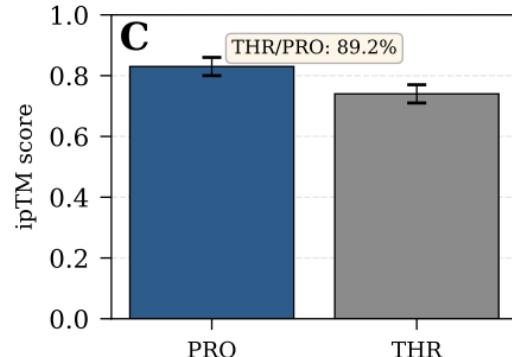
LUCA ProRS Catalytic Domain



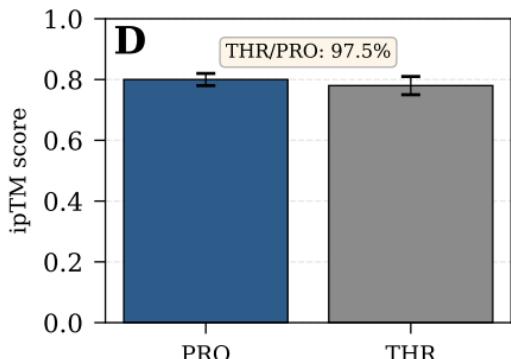
LUCA ThrRS Catalytic Domain



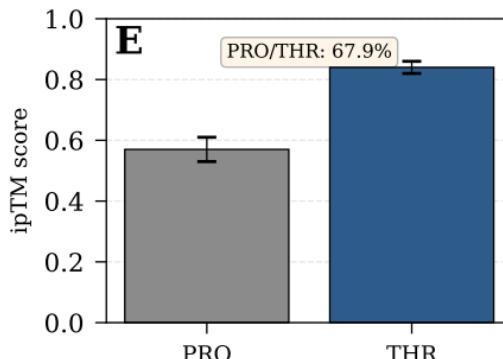
Eukaryotic ProRS Ancestor



Modern Human ProRS



Modern Human ThrRS



█ Cognate substrate
█ Non-cognate substrate
█ Control (TRP/PHE)