

Selection at Work in the TAZ2 zinc finger of CREB-binding Protein

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CREB-binding protein(CBP) is a coactivator protein that interacts with, among other proteins, the cancer protein p53. Using a multiple-sequence alignment from nine taxa and analysis in TreeSAAP, we have identified a region of selection for “Turn Tendencies”. This region of selection is located in the part of the sequence corresponding to the TAZ2-zinc finger domain. This is a domain, which in CBP, interacts with p53, E1A, MyoD, and GATA-1. This means that there is selection occurring in the way that CBP binds to p53. The next step I plan to take is to see if similar selection is occurring in the closely-related EP300 protein. I plan to do this by comparing the selection found in this region for EP300 to the selection pattern found in CBP. If similar selection is occurring, then the selection is affecting the target proteins that CBP and EP300 have in common. If similar selection is not occurring, then the selection is affecting the target proteins that are unique to CBP’s interactions.