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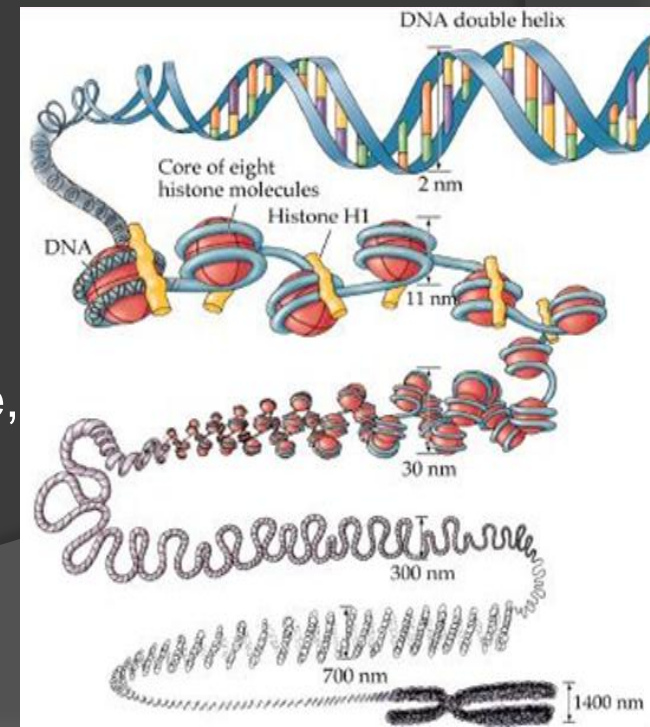
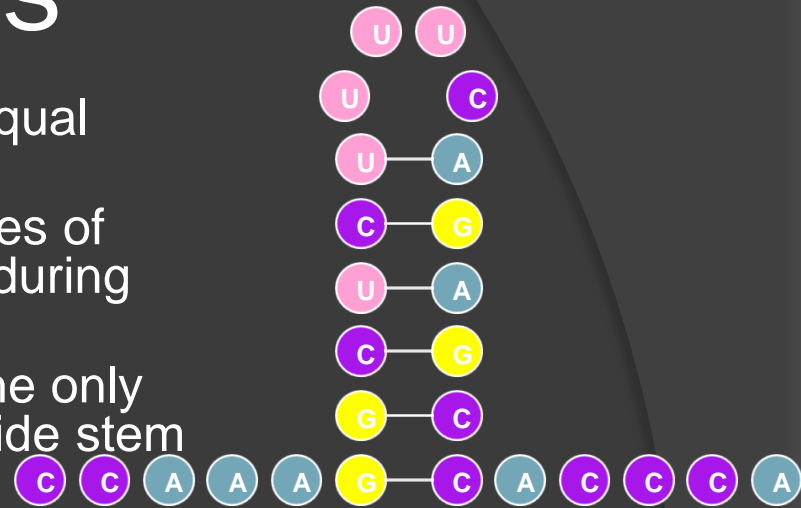
CHARACTERIZATION OF SLIP-1 INTERACTION WITH C-MYC



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

Background and Goals

- Eukaryotic chromosomes are composed of equal quantities of DNA and histones
- A cell must synthesize the necessary quantities of histones to package the DNA into chromatin during cell division
- Replication-dependent histone mRNAs are the only metazoan mRNAs that end in a 3' 26 nucleotide stem loop structure
- The stem loop is bound by stem loop binding protein (SLBP), which participates in histone mRNA translation
- SLBP-interacting protein 1 (SLIP1) binds to SLBP and stimulates translation of histone mRNA
- SLIP1 is necessary for cell viability, but its entire cellular role is unknown
- A yeast-two-hybrid screen identified c-myc as a SLIP1 interacting protein
- C-myc is a known transcription factor and oncogene, however a recent publication suggests that c-myc increases translation by driving mRNA 5' cap methylation
- My goal is to define the interaction between c-myc and SLIP1 by using biochemical and cell biological techniques



Results

- SLIP1 and c-myc interact in yeast
- In vitro translated c-myc can be pulled down with recombinant GST-SLIP1
- Immunoprecipitated SLIP1 is able to co-immunoprecipitate exogenous tagged HA-c-myc in HeLa cells

Future Directions

- Determine if the interaction is conserved in *Drosophila*
- Determine which domain of c-myc is binding to SLIP1