

Project Title:

Non-coding RNA structure

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Purpose of the project is to investigate the 3D structure of non-coding RNAs. In contrast to proteins, little is known in general about the structure of RNA, the relation between RNA structure and function, and the relevance of the nucleotide sequence in determining the structure. Understanding the structure of non-coding RNAs is particularly important, as most transcripts in human cells do not code for proteins. The function of non-coding RNAs is the main theme of the sixth edition of the FANTOM (Functional Annotation of the Mammalian Genome) project, currently underway at our laboratory.

We have been testing the Amber molecular dynamics simulation software with regards to its effectiveness in simulating the structure and dynamics of RNAs. Since so far we have only run small-scale tests. Current usage is 839.8 hours of total time, with 2 GB storage used. We do not yet have results or conclusions to report; this will take much more time. We will continue these test runs, and expect to expand to larger simulations depending on the outcome of our current tests.