

Abstract

Three phenylalanine residues in Histone like protein HUA of *E. coli* were mutated to tryptophan. Systematically, the experiments were conducted to monitor the effect of these mutations on the structure, stability and function of these mutant proteins. Of three, one mutant F51W (Mut 2) had a very high aggregation tendency, the other 2 mutants F47W (Mut 1) and F79W (Mut 3) also showed aggregation but had dimeric population also. Both the mutants show significant DNA binding. No significant change in structure of protein was observed on DNA binding, as observed by Far-UV CD spectra and trp fluorescence. Tryptophan anisotropy showed increase in anisotropy, more in case of Mut 1. Protein DNA complexes were irradiated with UV light to look for changes in DNA binding and size upon generation of tryptophan oxidation by-products