

عنوان مقاله:

Bioinformatic investigation of the effect of amino acid substitution on solubility of Enhanced Green Fluorescent Protein

محل انتشار:

اولین همایش بین المللی افق های نوین در علوم پایه و فنی و مهندسی (سال: 1395)

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خلاصه مقاله:

Green fluorescent protein (GFP), for the first time purified from *Aequorea victoria*, absorbs light with an excitation maximum of 395 nm, and fluoresces with an emission maximum of 510 nm. The fluorescence intensity of this protein can be improved by substituting two amino acids (P64L and S65T). Therefore, this structure is named Enhanced Green Fluorescent Protein (EGFP). The EGFP protein solubility is the important issue that has an application in molecular labeling. In this study, initially, the pdb structure of EGFP was obtained from www.rcsb.org and the hot spot residues were surveyed in hot spot wizard server. In the following, Phenylalanine (Phe 99) residue, was selected to substitute with Tyrosine. The effect of this substitution was evaluated by PROSO II servers. The EGFP protein third structure after mutation was predicted by the swiss model server and the EGFP stability was obtained from DUET server. The results show that this mutation probably can be improved protein solubility

کلمات کلیدی:

EGFP protein, Solubility, Amino acid substitution, Bioinformatic prediction

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