18th National and 3rd International Conference of Iranian Biophysical chemistry

هجدهمین همایش ملی و سومین همایش بین المللی بیوشیمی فیزیک ایران

25-26 Des, 2024, University of Hormozgan

۶-۵ دی ماه ۱۴۰۳، دانشگاه هرمزگان

Interaction Studies of Copper (II) Schiff-Base Complex with Human Serum Albumin (HSA) and anti-cancer properties

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Abstract

The investigation of interactions between drugs and plasma proteins has become a compelling area of research in the fields of chemical biology and pharmacology[1]. Metal-based pharmaceuticals present potential advantages over their organic counterparts, exhibiting modified pharmacological and toxicological properties[2]. A binuclear Schiff base copper(II) complex, $[Cu_2(HL)_2(\mu\text{-}Br)_2].(H_2O)$, with HL_1 being the tridentate ligand 2-(((1-hydroxy-2-methylpropan-2-yl)imino)methyl-4-nitrophenol, was synthesized and characterized utilizing various spectroscopic techniques.

Interaction between HSA and the copper(II) complex was investigated by Circular Dichroism and Molecular Docking[3]. MTT assay results indicated that the copper complex demonstrates significant cytotoxicity. These findings suggest that the synthesized complex exhibits promising anticancer properties[4].

Key words: Molecular Docking, MTT assay, Copper complex, Circular Dichroism

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