Abstract: Vitamin D is a kind of lipid-soluble vitamins, which is essential for maintaining the level of calcium in blood (serum). The previous research shows that a high level of vitamin D in the human blood has a positive effect on health and reduces the risk of cancer. Alpha lactalbumin is one of the major protein components of milk, which has an affinity for ligation to a group of hydrophobic ligands like some fatty acids, retinol and some peptides. Interaction of vitamin D with bovine alpha lactalbumin was investigated by using different spectroscopic methods. Quenching of protein intrinsic fluorescence and an alteration of circular dichroism (CD) spectrum showed that the interaction of proteins with vitamin D causes conformational changes as well as a small secondary structure change in alpha lactalbumin. UV-Vis, fluorescence and CD spectroscopic data supported the formation of a complex of D and alpha lactalbumine. Binding of Vitamin D to alpha lactalbumine can be very beneficial for entering this hydrophobic vitamin into the aqueous phase and enrichment of foods.

Alpha-lactalbumin, Vitamin D3, fluorescence, Circular dichroism, hydrophobic ligands

Presentation: Poster