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**Review Article**

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## **AQUASOMES -THE BEST CARRIERS FOR PROTEIN AND PEPTIDE DELIVERY**

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### **ABSTRACT**

*Nanoparticulate carrier system constitute one of the self assembling approaches for development of pharmaceutical agents. Aquasomes are the nano biopharmaceutical carrier systems containing particle core composed of nano crystalline calcium phosphate or ceramic diamond, and is covered by a poly hydroxyl oligomeric film. The solid core provides the structural stability, while the carbohydrate coating protects against dehydration and stabilizes the biochemically active molecules. The delivery system has been successfully utilized for the delivery of insulin, haemoglobin, and enzymes like serratiopeptidase etc. Aquasomes technology represents a platform system for conformation integrity and biochemical stability of bioactives. Three types of core materials are mainly used for producing aquasomes: tin oxide, nano crystalline carbon ceramics (diamonds) and brushite (calcium phosphate dihydrate). Calcium phosphate is the core of interest, owing to its natural presence in the body. Aquasomes discovery comprises a principle from microbiology, food chemistry, biophysics and many discoveries including solid phase synthesis, supra molecular chemistry, molecular shape change and self assembly. This review mainly deals with the advantages, properties, method of preparation, fate and characterization of aquasomes.*

**Key Words:** *Aquasomes, Nanoparticulate carrier system, Sonication, Core, Glass transition temperature, Self assembling carrier system.*