

## **Cockle shell-derived aragonite calcium carbonate nanoparticle for targeting cancer and breast cancer stem cells**

### **ABSTRACT**

Cockle shell-derived aragonite calcium carbonate nanoparticles (CACNP) have demonstrated prospect as nano-sized drug carriers for targeting cancer cells. CACNP is biocompatible, biodegradable and its biomaterial is readily available and is of low cost. In addition, CACNP is highly porous, has a large surface area which confer a high loading capacity. The pH-dependent release properties as well as its potential for surface functionalization with targeting agents make CACNP useful in passive and active targeting of cancer cells and cancer stem cells. In this article, we reviewed the current state of CACNP as nano-sized drug carrier for targeting cancer cells, cancer stem cells and its biocompatibility.

**Keyword:** Calcium carbonate nanoparticle; Cockle shell; Biocompatibility; Cancer therapy