

CPP-ACP acts as a source for calcium and phosphate when attached to dental plaque and tooth surfaces. Second, the CPP has binding affinities for apatite, pellicle, mucin, proline-rich proteins and bacteria; this binding encourages a conformational change in the CPP to be release calcium and phosphate ions from the nanocomplex (K. J. Cross et al., 2005; E. Reynolds et al., 2003; Rose, 2000a, 2000b; Schupbach et al., 1996) Third, the phosphorylated groups of the peptide come to be protonated, so reducing the net negative charge and lead to the release of positive calcium and phosphate ions from the CPP-APC when pH degree decreases (Cochrane, Saranathan, Cai, Cross, & Reynolds, 2008; E. Reynolds, 1997). Fourth, CPP is contain enzymatic hydrolysis to contributed release of the calcium and phosphate ions (E. Reynolds et al., 2003; R. Reynolds, Carey, & Herschkowitz, 1989). Casein phosphopeptide includes a cluster of phosphoserine (Ser(P)) residues which have the capability to bind amorphous calcium phosphate and lead to increasing its solubility and preventing mineral precipitation (Iijima et al., 2004; Reeves, 1958; E. C. Reynolds, 1998) the CPP and Calcium act together through the negatively charged residues of the peptide (-Ser(P)-Ser(P)-Ser(P)-Glu-Glu-) as well as other acidic residues of the phosphopeptide sequence (K. J. Cross, Huq, Palamara, Perich, & Reynolds, 2005). CPP can integration with the pellicle in conversation for albumin; that inhibits the adherence of *S. sobrinus* and *S. mutans* via obstructive specific receptors, competitively binding calcium to prevent calcium bridging of bacterial cells, and causing electrostatic repulsion by binding to the surface of bacteria (Rose, 2000a; Schupbach, Neeser, Golliard, Rouvet, & Guggenheim, 1996). calcium and phosphate ions are liberating .from CPP-ACP is driven by 1) equilibrium, 2) conformational changes, 3) pH and 4) enzymatic activity