Conjugation of fibroin and colloidal gold particles

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Recently, the conjugation of colloidal gold particles and proteins especially antibody has been applied in the field of diagnosis and life science research. A core-shell nanostructured metal colloid-protein bioconjugates has been reported.[1] Development of such composites would have immediate applications in catalysis, sensors, molecular markers, and in particular, biological applications such as biolabeling and drug delivery.[2]

In this report, we investigated the conjugation of fibroin and colloidal gold particles under varying conditions. Fibroin particles with colloidal gold conjugate were analysed using electron microscope. Due to the inhomogeneous dispersion of fibroin, the resulting composite protein showed large aggregated structures with colloidal gold either in solution or in dried state. Simultaneous synthesis of colloidal gold using fibroin and reducing agent also carried out. Fibroin and gold aggregates with varying color were obtained and visualized by electron microscopy.

Further investigations for the conjugates were being carried out and application of their composite will be studied.

References

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