

## Targeted drug delivery using niosome: The magic bullet

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### Objective

To achieve targeted drug delivery using Niosomes- "The Magic Bullet"

### Abstract

Niosomes are microscopic lamellar structure formed on admixture of non-ionic surfactant of the alkyl or dialkyl poly glycerol ether class and cholesterol with subsequent hydration in aqueous medium. Types: 1) SUV-Small Unilamellar Vesicle, 2) MLV-Multi Lamellar Vesicles, 3) LUV-Large Unilamellar Vesicles. Niosomes are designed to concentrate the drug to the tissue of interest as a result drug is localized on the targeted site. Hence, healthy tissues are not affected by the drug. The properties of the vesicles can be changed by varying the composition of vesicles, size, lamellarity, tapped volume, surface change and concentration.

### Advantage

Niosomes are the best carrier as they act as a depot releasing the drug in the controlled manner, variety of drugs can be loaded due to hydrophilic, lipophilic nature, exhibits flexibility in structural characteristics, osmotically active and stable, surfactants are biodegradable, biocompatible, and non immunogenic.

Therapeutic applications include (1) Targeting of bioactive agents to Reticulo Endothelial Systems, (2) Delivery of peptide drugs, (3) Carrier for haemoglobin.

### Conclusion

Niosomes are the promising targeted drug delivery system since they are cost effective and prepared from uncharged single chain surfactant and cholesterol.