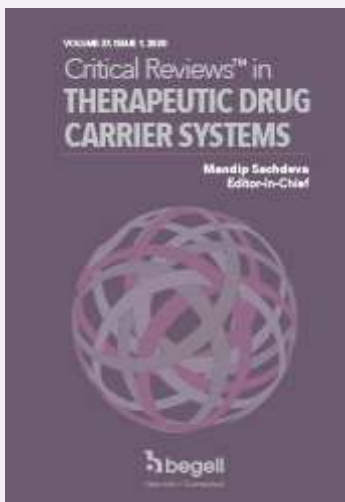


[< Volume 37, 2020 Issue 6](#)

Critical Reviews™ in Therapeutic Drug Carrier Systems

Editor-in-Chief: **Mandip Singh Sachdeva**

Associate Editor: **James Birchall**

ISSN Print:

0743-4863

ISSN Online:

2162-660X



IF: **4.889**



5-Year IF: **4.681**

SJR: **0.73**

SNIP: **0.908**

CiteScore™: **4.9**

[Gain Access](#)

[More](#)

Insights into the Approach, Fabrication, Application, and Lacunae of Nanoemulsions in Drug Delivery Systems

pages 511-551

DOI:

10.1615/CritRevTherDrugCarrierSyst.2020030291



[Get access](#)

Kumar Anand

*Department of Pharmaceutical Technology, Jadavpur University,
Kolkata-700032, West Bengal, India*

Mahfoozur Rahman

*Department of Pharmaceutical Sciences, Faculty of Health
Sciences, Shalom Institute of health and allied sciences,
SHUATS, Allahabad, Uttar Pradesh, India, 211007*

Subhabrata Ray

*Dr. B.C. Roy College of Pharmacy & Allied Health Sciences,
Durgapur, West Bengal-713206, India*

Sanmoy Karmakar

Department of Pharmaceutical Technology, Jadavpur University

Department of Pharmaceutical Technology, Jadavpur University,
Kolkata-700032, West Bengal, India

ABSTRACT

Many of the recently approved drug molecules that are therapeutically successful are found to be incompatible for the development of a novel delivery system and to take part in various health care management. Regardless of having better

therapeutic properties, these molecules are barred from their effective clinical uses. The main reason attributed to it is poor solubility and/or poor permeability of drugs which finally emerges the drug to be low bioavailable. Nanoemulsions are one of the most acceptable nanolipoidal drug delivery system and appears to be a hope for the delivery of many of the Biopharmaceutical Classification System (BCS) class II and IV drugs. A nanoemulsion is a thermodynamically unstable isotropic mixture of oil, surfactant, and co-surfactants and is biphasic in nature. It can be either water in oil or oil in water and droplets are found in the range of 5 to 500 nm. The manufacturing and fabrication of nanoemulsions involve various natural, synthetic and semi synthetic materials using either low or high-energy methods. Application of nanoemulsions as a novel drug delivery system through several routes, especially oral, transdermal, ophthalmic, and intranasal, have been increased for various pharmacological aspects such as cardiovascular, anticancer, antimicrobial, and ophthalmic due to their stability, high solubilization capacity, and ease of preparation. The objective of this review is to

focus on the aspects of manufacturing, fabrication, application, and some toxicological concerns related to

nanoemulsions.

KEY WORDS: nanoemulsion, Biopharmaceutical Classification System (BCS) class II/IV, bioavailability, manufacturing, fabrication, application

▼ REFERENCES

Articles with similar content:

COLLOIDAL DRUG DELIVERY SYSTEMS: CURRENT STATUS AND FUTURE DIRECTIONS

Critical Reviews™ in Therapeutic Drug Carrier Systems, Vol.32, 2015, issue 2
Goutam Rath, Amit Kumar Goyal, Tarun Garg

CURRENT TRENDS IN SELF-EMULSIFYING DRUG DELIVERY SYSTEMS (SEDDSS) TO ENHANCE THE BIOAVAILABILITY OF POORLY WATER-SOLUBLE DRUGS

Critical Reviews™ in Therapeutic Drug Carrier Systems, Vol.33, 2016, issue 1
Goutam Rath, Tarun Garg, Rohit Karwal,
~~Tanmay S. Markandeywar~~
