



Customized Theranostic Drug-Loading-Services

Your Drug, BioPAL's Magnetic Nanoparticles

BioPhysics Assay Laboratory (BioPAL) offers custom services to accelerate research in nanoparticle mediated drug delivery. BioPAL's custom services offer nanoparticle loading for a variety of drug candidates including hydrophilic, hydrophobic, cationic, and anionic compounds on BioPAL's proprietary family of iron oxide magnetic nanoparticles called Molday ION. Drug loading is accomplished using a variety of techniques and nanoparticles. Percentage loading is established through optical detection. Lead-time for this service is 1-3 weeks depending upon availability of the chosen nanoparticles. Customers must provide the drug substance to be loaded onto Molday ION, an MSDS, and a general description of the drug substance related to solubility, charge, and other chemical properties to facilitate choosing the most suitable Molday ION candidates for loading. The drug loading service is provided on a best efforts basis.

Details:

BioPAL's Magnetic Nanoparticle Drug loading services are based on BioPAL's proprietary group of nanoparticles trade-marked Molday ION. Molday ION nanoparticles used for drug loading can be provided undecorated or pre-labeled with a fluorescent tag and/or ligand such as biotin to facilitate targeting and tracking. The Molday ION family of nanoparticles is well-published and used in MRI contrast, cell labeling and tracking. Molday ION has a low toxicity profile and is stable to autoclaving.

1. Synthesis. Drug loadings generally are non-covalent and are calculated on 10 or 50 mg of Molday ION. The ratio of drugs to Molday ION will be based on the customer's needs as well as based on the stability of the drug-Molday ION complex. Typical drug loadings range from 0.1-5mg drug per 10mg Fe.

The drug must be provided by the customer in excess to allow for:

- 1) Loss during loading and purification
- 2) Multiple drug loading protocols
- 3) Quality control testing including characterization before and after drug loading

2. Purification of the drug-nanoparticle complex to remove excess drug may result in a loss in the loaded drug bound to Molday ION.

3. Technical Data provided with the custom drug-loading services:

- Hydrodynamic size before and after drug loading
- Iron oxide magnetic nanocrystals concentration
- % Drug loading efficiency that is based on absorbance or fluorescence signal of the drug (or other properties specified by the customer)
- R1 and R2 values can be supplied for an additional charge

Pricing:

\$800 service charge for loading 10 mg Molday ION + price for Molday ION

\$2,000 service charge for loading 50 mg Molday ION + price for Molday ION

Discount will be provided for bulk quantities.

For more information, please contact Dennis Vaccaro at cs@biopal.com or call BioPAL at 508-770-1190.

BioPAL is ready to discuss licensing its technology to facilitate, product development, manufacturing, and intellectual property protection.