NANOVEX
Biotechnologies

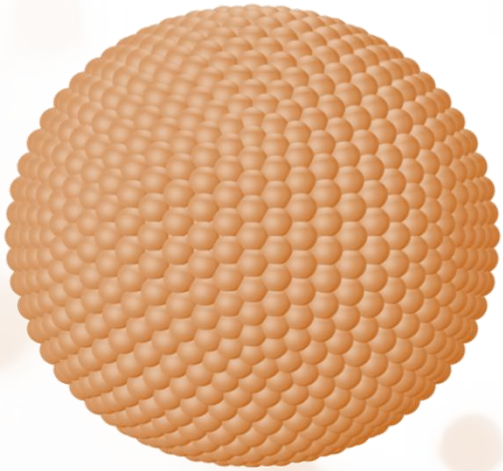
CUSTOM SERVICES

2018

NANOENCAPSULATION

NANOENCAPSULATION OF COMPOUNDS

Nanoencapsulation of compounds/biomolecules (molecules, peptides, proteins and DNA, among others) in nanovesicles or PLGA nanoparticles for different applications.



Custom nanosystems

Nanovex develops custom nanovesicles or nanoparticles in order to meet your requirements:

- Formulation
- Size and distribution
- Z-Potential
- Surface modification

Surface modification

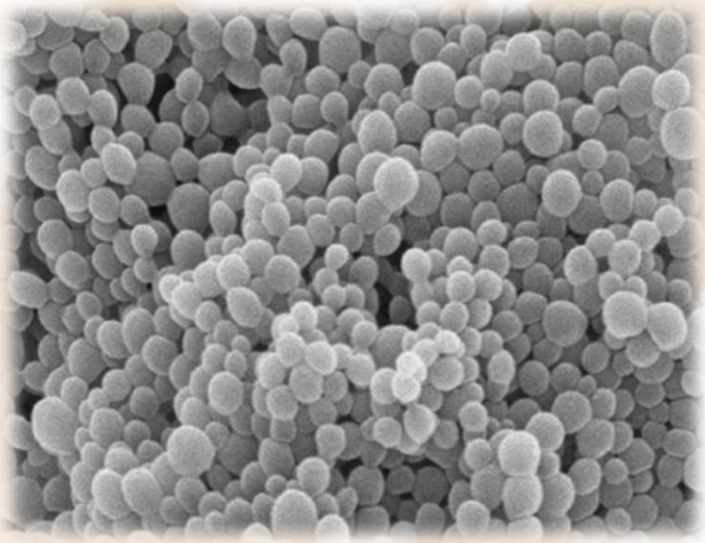
Surface modification of nanovesicles and nanoparticles allows to achieve different delivery strategies such as:

- Long-circulating liposomes
- Intracellular delivery
- Targeted delivery

Delivery studies

Delivery studies of the final encapsulated compound, peptide or protein, can be performed by Nanovex, for instance, simulating different conditions :

- Gastric conditions
- Intestinal conditions
- Dermal/Transdermal assays



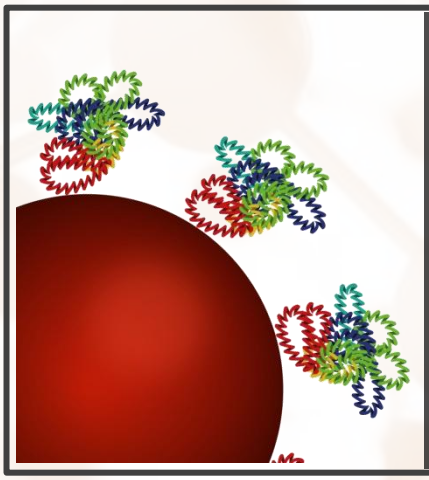
How do we work?

1. **Select the right system**
2. **Send the compound to encapsulate**
3. **After 2-4 weeks, Nanovex will provide your system with a full characterization**

BIOCONJUGATION

Surface modification / Bioconjugation

Nanovex has a wide experience in the field of surface modification of both nanoparticles and nanovesicles with different biomolecules, appart from the bioconjugation of proteins and DNA with different labels. After the surface modification or bioconjugation process, the product is purified and fully characterized in order to get a high quality and purified surface modified final product.

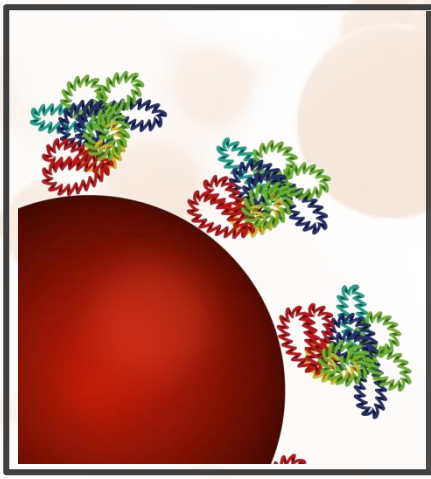


SURFACE MODIFICATION – OPTION 1

Nanomaterials to modify: Nanoparticles and nanovesicles

Technique: Passive adsorption / Covalent conjugation

Characterization: UV-VIS



SURFACE MODIFICATION – OPTION 2

Nanomaterials to modify: Nanoparticles and nanovesicles

Technique: Passive adsorption / Covalent conjugation

Characterization: ICP-MS

BIOCONJUGATION

Biomolecules to modify: Antibodies, enzymes, proteins, and DNA.

Technique: Covalent conjugation

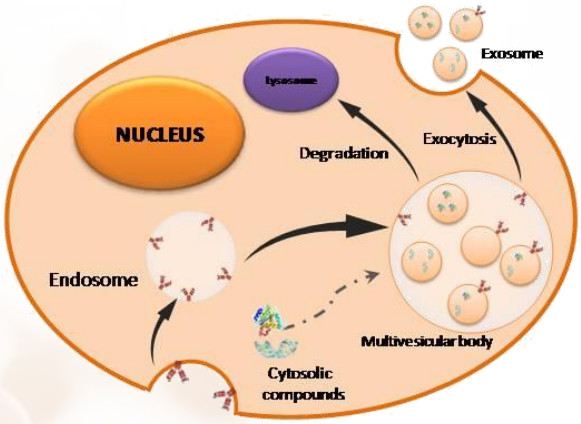
Characterization: UV-VIS / ICP

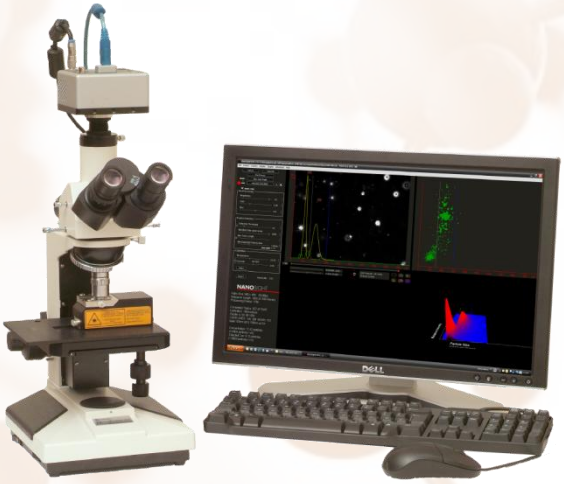
EXOSOME CHARACTERIZATION

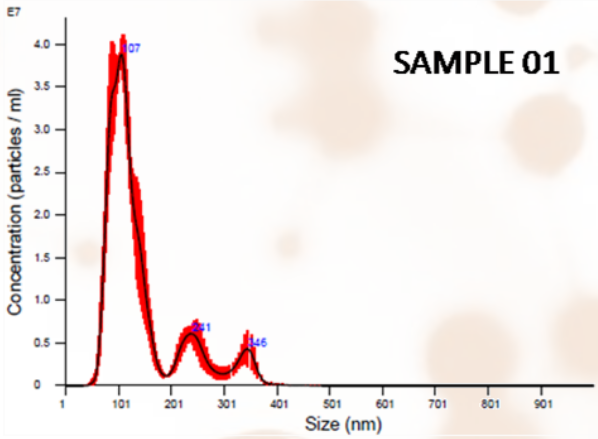
Exosome characterization

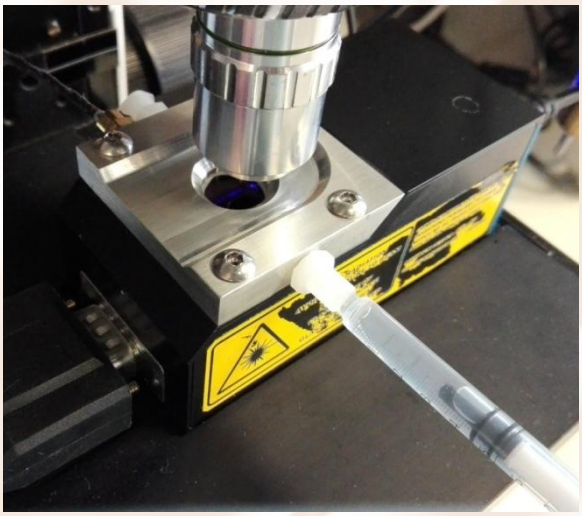
Exosomes are one the most interesting biological microvesicles due to the potential source of information contained inside these particles.

Our facilities have the highest technology such as the *Nanoparticle Track Analysis* (NTA) Technology, based on the analysis of Brownian motion, which is able to determine the **size, size distribution and the exosome concentration** in the sample.









Specific Exosome characterization

Apart from the analysis of exosome size and concentration, NTA analysis also enabled an evaluation of a subpopulation of exosomes which possess a specific biomarkers over their surface. This goal can be achieved by using an appropiate fluorescent antibody or molecule to label the exosome of interest.

NANOMATERIAL CHARACTERIZATION

Nanomaterial characterization

The service is focused on the **characterization of nanomaterials (metallic nanoparticles, polymeric nanoparticles and nanovesicles, among others) as well as other similar systems** ranged from 0.3 nm to 100 µm. In addition to nanomaterial characterization, Nanovex offers personalized advice and technical assistance.

The following parameters can be determined: **Size, size distribution, Nanoparticle/Nanovesicle Concentration, Z-Potential, Morphology, Entrapment Efficiency, Structural Analysis, Fluorescence and Stability.**