

Dear colleagues!

We present the compact laser synthesis platform (PLAS) for nanoparticles production. Our PLAS is the first-in-class commercial solution for the local production of ultrapure, biocompatible, ligand-free colloids directly at the point of use. The system fits on a standard laboratory bench in a medical center, university, or pharmaceutical lab—no cleanrooms, vacuum lines, specialized infrastructure or training required. All you need is a standard laboratory, a bench, and our platform.

PLAS is a single-step and "chemically clean" process. No precursors, salts, ligands, surfactants, or toxic reducing agents required. High temperatures and pressures, high voltages, strong magnetic fields, or deep vacuum are also eliminated. This reduces CAPEX/OPEX, accelerates production, and dramatically reduces the risk of chemical and biological contamination by eliminating typical steps such as chemical cleaning, drying, repackaging, resterilization, and transportation.

How it works. A pure material target is placed in a sterile cartridge or flow reactor with the selected solvent. Scanning laser evaporates the material, forming a plasma and colloidal suspension in the liquid. A second monochromatic beam and a built-in spectrophotometry/DLS module continuously measure optical absorption and particle size/distribution, automatically stopping ablation when the specified concentration and quality parameters are reached.

Material Range and Parameters. The platform supports Au, Ag, C, Cu, Fe, Pd, Pt, Ti, Zn, and their oxides with a typical size range of 10 to 800 nm depending on the operating mode, and a throughput of up to 20 mg/h depending on the material. This enables rapid experiments, prototyping, and educational workshops, as well as batch preparation for biomedical and pharmaceutical applications.

This enables your team to produce nanoparticles directly on-site, avoiding logistics, imports, and delays. This is not only convenient but also cost-effective. This gives you a fully operational, ready-to-use solution that can be implemented in any pharmaceutical or biotechnology laboratory, research center, institute, or even department for student training.

If you want to cooperate, participate to pilot or get nanoparticle solution samples, please send your request on our email or visit us at plasresearch.solutions

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