

LBL-Library® – A New Paving Stone in Large-Scale DNA Analysis



With the expanding discovery of the human genome and the screening of genomic DNA sequences, the large-scale analysis of genetic variation and function has become a fundamental part of research. However, large scale analysis is still limited by time and the number of different DNA sequences to be screened in parallel.

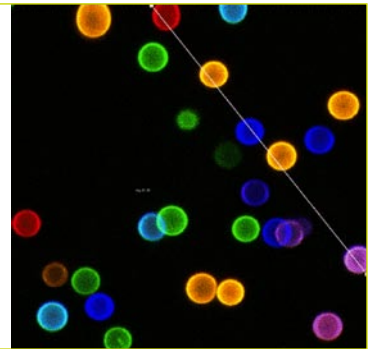
LBL-Library® is a library of fluorescent particles which opens a new dimension for the large-scale DNA analysis. The particles are manufactured according to the LBL-Technology®. They are monodisperse with diameters between 200 nm and 5.000 nm, and can be easily read out in parallel.

LBL-Library® can be engineered to provide the following benefits:



Fluorescence image of a mixture of differently coded polyelectrolyte capsules ($d = 3$ micron)

- HIGH NUMBER OF DYE COMBINATIONS
- PRECISE READ-OUT IN PARALLEL
- ENHANCED SENSITIVITY
- INCREASED SOLVENT STABILITY
- EASY RESUSPENSION



A high number of dye combinations is achieved by the combined incorporation of different fluorescent dyes in the wall structure and/or in the particle core. For example, a library of 136 different particles can be offered by combining 3 different colours (dyes) within a number of 15 labelled particle layers. They can be precisely read out in parallel, which is assured by inhibiting interactions between different dyes. Furthermore, enhanced sensitivity is achieved by a high number of functional groups added to the particle surface. They can be embedded into or onto the layer structure. Increased solvent stability is also provided by the resistance of the particles against organic or inorganic solvents. Due to the predefined high charge of the surface, the particles can be resuspended easily.

LBL-Library® can be engineered to individual array formats by providing a high flexibility in:



- MATERIALS
- SIZE
- COLOURS

LBL-Library® is patent protected worldwide, thus providing several technological niches in specific array formats.

Please feel free to contact us. We will engineer the right library for you.



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