LBL-Fretballs® for Resonance Energy Transfer Assays

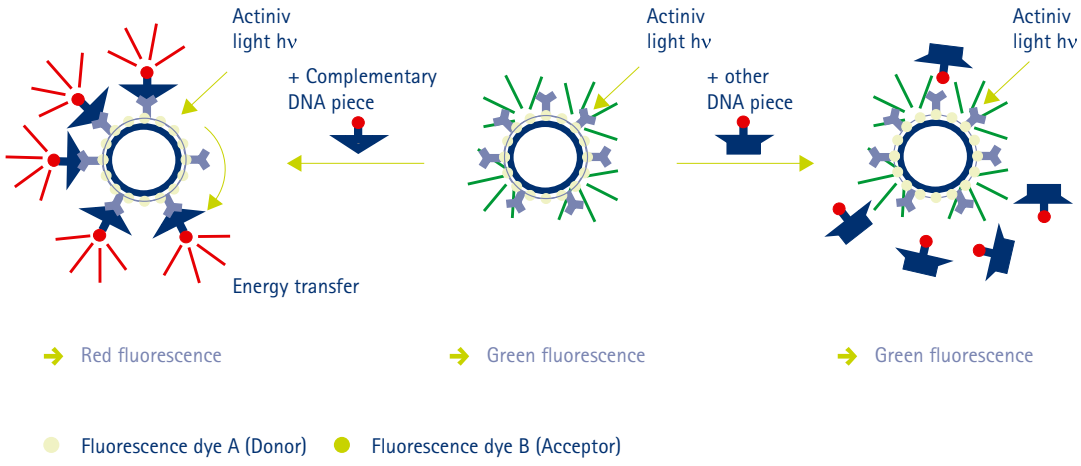
FRET (Fluorescence Resonance Energy Transfer) is a very promising approach to separation-free tests, which, in turn, lead to simple assay formats and easy-to-use instrumentations requiring fewer assay steps, low volumes, waste and costs. However, FRET assays are usually limited in their efficacy due to the use of diagnostic particles showing, for instance, high background noise in fluorescence detection.

The product LBL-Fretballs® enhances significantly the test efficacy. They are hollow particles manufactured according to the LBL-Technology® with a diameter above 500 nm.

Especially for the use in FRET assays, LBL-Fretballs® provide the following benefits:

- LOW BACKGROUND NOISE
- LOW SEDIMENTATION RATE
- LOW SCATTERING
- HIGH SENSITIVITY
- HIGH STOKES SHIFT
- HIGH SOLVENT STABILITY
- EASY RESUSPENSION

Low background noise can be achieved by using hollow capsules, because there is no labelled core particle interacting with the surface. In addition, a low sedimentation rate and low light scattering are provided by the light hollow, low refractive-index particle structure. Dye particles having high stokes shift can also be produced. Increased solvent stability is provided by the resistance of the particles against organic or inorganic solvents. Furthermore, the particles can be resuspended easily due to the predefined high charge of the surface.



Layer structure of LBL-Fretballs® – Sensitive layer between the FRET pair swells in presence of the detecting agent.

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

- MATERIAL
- BIOCOMPATIBILITY
- SIZE
- COLOURS
- MULTIPLE FUNCTIONS
- PAYLOAD

LBL-Fretballs® are patent protected worldwide, thus providing several technological niches in specific FRET-assays formats. They can also be used for trade protection as well as for other coding/decoding systems. Please feel free to contact us. We will engineer the right Fretball for you.

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