

Product Description “Cellavista”



“Cellavista” design study

General product description:

The „Cellavista“ will be a very fast and highly flexible automated cell imaging system capable of observing and analyzing eukaryotic cells in micro plates and other culture vessels using bright light as well as fluorescent illumination. The flexible image recognition technology will be adjustable to perform a wide range of image recognition tasks. Thereby the Cellavista will be applicable in a wide range of cell based applications.

Specifications:

Hardware:

The hardware will be modular.

This means that the camera type as well as the number and magnification of the objectives can be chosen by the user.

The image processing will be scalable according to the customers demand for image processing speed. Higher speeds require more computing units.

Illumination:

- Bright light as well as fluorescent illumination (up to 6 channels) will be available. (user definable)

Magnification:

- The user can choose from a large number of objectives.
2x, 4x, 10x, 20x, 40x
- All of the objectives are “air”-objectives. All magnifications higher than 10x require a thin well bottom.
- The Cellavista will feature an automatic objective revolver.

Micro Plate Types:

The following plate types will be applicable:

- 6, 12, 24, 48, 96, 384, (most likely also 1536) well plates (as long as they have a flat and clear bottom)
- Smaller T-flasks and other culture systems (chamber slides, dishes) that fit into the SBS-standard-frame (8,5 cm x 12,8 cm)

Automation Friendly Design:

The plate tray will be easily accessible by a robotic arm.

Software

- Flexible image recognition
- Predefined measurement templates
- Complete archiving of results
- Export of images and all measurement results
- Easy to handle user interface

Speed

- Whole area bright light scan of 96 well plate within 5 minutes
- Whole area bright field scan of 384 well plate within 10 minutes
- Image processing in parallel to measurement possible

Applications

Cell Line Development

- proliferation assays
- fluorescent protein detection
- cell count based on DAPI staining
- cloning assays
- colony counting
- feeder cell applications
- micro plate quality control
- transfection efficiency
- FACS seeding efficiency control

Also:

- plaque assays
- stem cell differentiation assays
- toxicity assays
- fluorescent bead based applications

+ many more fluorescent applications