



Proportionator - efficient sampling

The proportionator is the most efficient unbiased stereological sampling method.

To the left, beta cell volume (mass) in the pancreas has been estimated.

Figure A:

- Region of interest is delineated at 1x
- Beta islets are detected by image analysis (orange) for Proportionator™ sampling
- Proportionator™ sampling is performed within region of interest resulting in only 20 fields of view showing mostly areas with islet content, and very few empty areas

Figure B

- Field of view at 20x magnification
- Beta cell volume is estimated by point probes
- After counting, the unbiased estimate can be calculated using weight-corrected counting results
- CE of the estimate can be directly calculated from the sampling data

Technical features:

General

- Separate image acquisition and stereological analysis process allows analysis on laptop at any location
- Software contains database for images and sampling parameters, probe data and analysis results
- Possibility for image sharing with other labs
- Support of whole slide image formats: Olympus, Hamamatsu, Aperio, Leica, 3-D Histech/Zeiss, and standard images formats as tiff and jpeg
- All data can be exported to MS Excel
- Detailed user manual implemented in the software

Sampling

- Methods: Systematic uniform random sampling (SURS) based on either fractional area, X,Y - stepper or number of sample
- Sampling can be perform on the entire whole slide image or on user defined region-of-interests
- Overview image displays region-of-interest (ROI) and sampling progress within ROI during the sampling process
- Stereological designs: Cavalieri, Isotropic uniform random (IUR) sampling, Vertical sections (VUR), Physical Disector/Fractionator

Geometrial probes and estimators:

- Point and line probes
- 2-D and 3-D counting frames

- Rotator, 2-D and 3-D Nucleator
- Point sampled intercepts

Physical disector and fractionator:

- Visual or automated alignment of section pairs
- Live or unattended sampling of paired fields of view
- Customized extended field of view in look up section
- Conn Euler analysis
- Handling of artificial edges

Proportionator:

- Non-uniform random sampling of fields based on the content of selected feature(s)
- Can be combined with all available probes
- Automated calculation of the weight-corrected counting result

Non-stereological probes:

- Mean cord length
- Mean linear intercept
- Perimeter
- 2-D distance measurement

Counting:

- Define up to 30 different counting marks
- Count different objects simultaneously
- Automatic logging of count and sampling data during the counting process