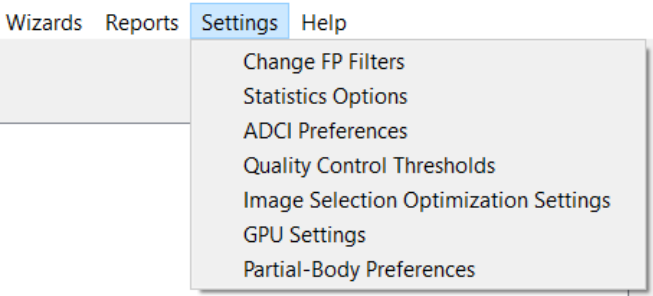


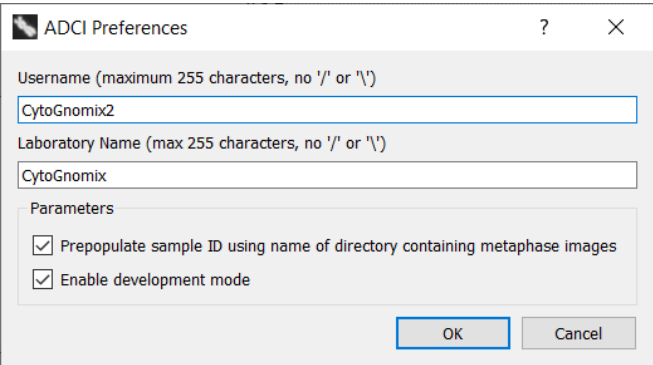
Settings and Preferences

Settings Menu

Access settings dialogs for many aspects of ADCI in the settings menu, located at the top of the [main GUI](#).



ADCI preferences



False positive filters

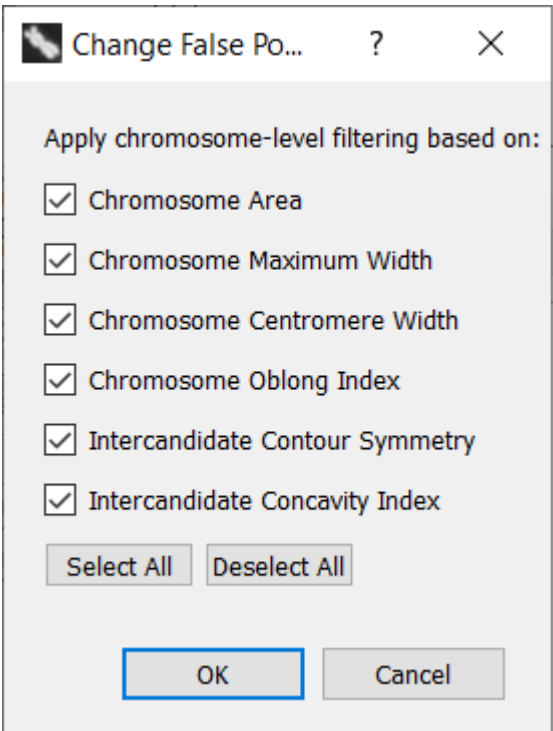


Image selection model optimization

Image Selection Model Optimization S... ? X

Settings for Image Selection Model Generation during Optimization Search

Filters Thresholds

Length-Width Ratio:

1;1.5;2

Centromere Density:

1;1.5;2

Finite Difference:

1;1.5;2

Total Object Count:

40;60;40;65

Segmented Object Count:

35;50

Classified-Segmented Ratio:

0.6;0.7

Combined Z-Score Weights

Weight 1 (LW):

0;1;2;3;4;5

Weight 2 (CD):

0;1;2;3;4;5

Weight 3 (FD):

0;1;2;3;4;5

Weight 4 (Total-count):

0;1;2;3;4;5

Weight 5 (Seg-count):

0;1;2;3;4;5

Weight 6 (Classified-ratio):

0;1;2;3;4;5

Selected Top Images

Number of Top Image Selected:

1000

OK

Cancel

Partial-body

- Expected baseline DC frequency for an unirradiated sample**

Baseline DC frequency in unirradiated cells varies between studies, reported to range from 0.00009 to 0.00299 ¹⁾. Baseline DC frequencies may vary between laboratories. Keep in mind this value does not reflect the DC frequency reported by ADCI for an unirradiated sample, instead it is the DC frequency for an unirradiated sample scored by an expert. We have selected a default baseline DC frequency of 0.00078 based on Lloyd et al. 1980 ²⁾.
- Dose at which 37% of irradiated cells survive**

Corresponds to the term D_0 in the Contaminated poisson method as described within the IAEA manual in section 9.7.4.3 ³⁾ and varies based on the type of radiation to which a individual was exposed. The default value for this

Partial-body Parameters ? X

Partial-body dose estimation

Expected baseline DC frequency for an unirradiated sample

0.00078

Dose at which 37% of irradiated cells survive

3.5Gy

Fraction of total images to place in each randomly generated sample

0.50

Minimum image count in randomly generated samples (overrides fraction)

500

Number of randomly generated samples to create

500

OK

Cancel

parameter is 3.5Gy.

- **Fraction of total images to place in each randomly generated sample**

Random subsets of images from an unirradiated sample are derived in order to determine an expected minimum number of DCs. A fraction of 0.5 means each randomly selected subset contains 50% of the images found in the original unirradiated sample. The default value for this parameter is 0.5.


- **Minimum image count in randomly generated samples (overrides fraction)**

A minimum image count for each randomly generated subset. For example, if a 0Gy calibration sample contains 1000 images and a fraction of 0.4 is applied, 400 images will be present in each subset. Then, if the minimum image count specified here is higher than 400, the minimum image count will override the fraction and each randomly generated subset will contain the minimum image count. Additionally, if the minimum image count is higher than the number of images in the 0Gy calibration sample, dose estimation will be aborted. The default value for this parameter is 500.

- **Number of randomly generated samples to create**

Count of randomly generated subsets to create. A higher number will increase dose estimation consistency but will require more computation time. The default value for this parameter is 500.

Quality Control

 Quality Control Thresholds?×

Samples

Minimum total images

100

Minimum selected images

50

Aberration

Minimum p-value of fit to Poisson distribution

0.005

Minimum DC detections and examined cells (images)


100 DCs

1000 Cells

OK

Cancel

Statistics

 Statistics Options?×

These settings will take effect the next time a calculation is made or plot is displayed. Please note changing settings here will not change plots/data currently displayed in the workspace.

Curve Fitting Settings

Calibration curve fitting method:

Maximum-Likelihood Method

Confidence Interval (CI) Settings

☒ Display calibration curve 95% CI, if applicable

☒ Dose estimation calculates 95% CI due to Poisson

☒ Dose estimation calculates 95% CI due to the curve, if applicable

OK

Cancel

1)
Romm H, Oestreicher U, Kulka U. Cytogenetic damage analysed by the dicentric assay. Annali Dell'istituto Superiore di Sanita. 2009 ;45(3):251-259.

2)
Lloyd DC, Purrott RJ, Reeder EJ. The incidence of unstable chromosome aberrations in peripheral blood lymphocytes from unirradiated and occupationally exposed people. Mutat Res. 1980;72(3):523-532. doi:10.1016/0027-5107(80)90123-2

3)
https://www-pub.iaea.org/MTCD/Publications/PDF/EPR-Biodosimetry%202011_web.pdf