

CELET course

instructions for the group presentations on Friday

Each group collects results from all course participants. One group presents the results of one exercise.

Chromosomal aberrations: Giemsa slides and FISH (results of scoring slides and images)

Giemsa stained slides

Present shortly the principle of culturing and harvesting cells. Explain how cells were treated.

Which aberration types were most common? Did all scorers find the same trend?

Are the aberrations Poisson-distributed?

Compare result of individual scorers and show the average result with standard deviations and 95% confidence interval. Do the results lie within the 95% CI?

Analyse the distributions of aberrations. Are they poissonian?

FISH

Present shortly the principle of FISH. Explain the advantage of scoring aberrations by FISH as compared to Giemsa staining

Compare results of individual scorers

Which chromosomes were painted? How do you calculate the whole-genome frequency of dics and how of trans. Why do you want to calculate whole genome frequencies?

What is the ratio of trans to dics?

Micronuclei (results of scoring images)

Present shortly the principle of culturing cells for MN. Explain how cells were treated. When presenting the results use doses, not codes.

Are micronuclei Poisson-distributed?

Compare result of individual scorers and show the average result with standard deviations and 95% confidence interval. Do the results lie within the 95% CI?

Fit the average result to a linear or linear-quadratic function. Which is better?

Dosimetry

Show results from each group for the relationship between the dose rate and distance from source
Pool results achieved with each source. Do you see differences between the sources?

Do the achieved results follow the inverse square law?

Show how the dose rate changes with position of the detector between two identical sources and two different sources (clock + point source).

Show spectrum of highest low energy component and the impact of lead and aluminium filtering.

What is the unknown source? How was it identified?

Show results from each group of gamma measurements of radon disintegration

Show results from each group for radon measured a) in the radon box, b) in the box with pitchblende rocks, c) in the ground outside the building

Show images of scintillation induced by the alpha source

GammaH2AX

Describe the principle of the gammaH2AX assay

Show dose response for all foci with standard deviations and 95% confidence intervals

Is the dose response linear or non-linear?

Show separate dose responses for small and large foci

What is the distribution of control foci and of radiation-induced foci (sum from all doses)?