Explanatory Notes About Data in Three Excel Workbooks

Relevant Publication:

Dorà, N. J., Hill, R. E., Collinson, J. M., West, J. D., 2015. Lineage tracing in the adult mouse corneal epithelium supports the limbal epithelial stem cell hypothesis with intermittent periods of stem cell quiescence. Stem Cell Res. 15, 665-677.

Names of Excel Workbooks:

4-week tamoxifen raw data_Dorà et al_DataShare.xlsx
12-week tamoxifen raw data_Dorà et al_DataShare.xlsx
24-week tamoxifen raw data_Dorà et al_DataShare.xlsx

Nature of Data

The data are measurements of β-galactosidase (β-gal) positive stripes induced in the corneal epithelium of CAGG-CreER;R26R-*LacZ* reporter mice, as described in the above paper. In the spreadsheets the individual mice are referred to as "RCAG" and a number.

In the main experiment, mice were injected with tamoxifen at 12 weeks of age. For comparison, other mice were injected with tamoxifen at 4 weeks or 24 weeks. Data from injections at these three different ages are shown in three separate Excel workbooks. Each workbook has multiple spreadsheets, according to the chase time that elapsed between injecting with tamoxifen and analysing the stripes.

Chase times (weeks) analysed on separate spreadsheets in three workbooks		
12-week tamoxifen injection	**4-week tamoxifen injection**	**24-week tamoxifen injection**
6 weeks	6 weeks	6 weeks
8 weeks	12 weeks	12 weeks
10 weeks		
12 weeks (2 batches in separate spreadsheets)		
14 weeks		
16 weeks		
18 weeks		
20 weeks		
30 weeks		

A second batch of mice was injected at 12 weeks for a 12-week chase because the first batch yielded too few stripes (probably for technical reasons). Data for the two batches are shown in separate spreadsheets in the same workbook.

The length of each β-gal positive stripe was measured in calibrated photographs of stained eyes, with Adobe Photoshop software. Initial measurements were in arbitrary units and these were converted to micrometres (microns).

Results for each eye are shown in 5 sections:

1. Mouse reference number (and left or right eye); chase period; sex of mouse. Conversion factor for converting arbitrary measured units to microns.

2. Two orthogonal corneal diameter measurements in arbitrary units; calculated mean corneal diameter, radius and circumference in arbitrary units.

3. Table of measurements in arbitrary units (measured in Photoshop):
   - Column A: Stripe reference number
   - Column B: This column is empty for the measurements in arbitrary units.

- Column C: Distance from the limbus to the peripheral end of the blue-stained β-gal positive stripe. For stripes with the peripheral end at the limbus (referred to as limbus-cornea or LC stripes in the paper) this distance is 0. For stripes with an unstained gap between the limbus and the peripheral end of the stripe (referred to as cornea-cornea or CC stripes in the paper) this distance is > 0.
- Column D: The width of the base of the stripe. This data was only used for LC stripes (where the measurement represents the width of the stripe at the boundary between the limbus and cornea). For most only the LC stripe widths were measured because the data for the CC stripe widths was not used. However, for some eyes both the CC and LCC stripe widths were measured.
- Column E: The cornea circumference alongside each stripe (repeated from section 2 but not shown for all eyes).
- Columns F-H (highlighted in yellow): Calculations relating stripe width and circumference. These are not included for every eye but the primary data (stripe width and circumference) is included for every eye.
- Column I: Empty.
- Columns J-N (or J-P where required): This shows the lengths of the blue (β-gal positive) and white (β-gal negative) regions of each stripe. Multiple β-gal positive regions that were radially aligned were classified as a single, discontinuous stripe. For a discontinuous LC stripe, the first blue region begins at the limbus and includes the first blue (stained) region (length in column J), then a white (unstained) region (length in column K), then a second blue region (length in column L) and so on. For a continuous LC stripe, there is only one entry (the blue region shown as the length in column J). For a discontinuous CC stripe, the first region is unstained and is distance from the limbus to the peripheral end of the first stained region (shown in column C), the next region is a blue (stained) region (length in column J), then a white (unstained) region (length in column K), then a second blue region (length column L) and so on. For a continuous CC stripe, the first region is unstained (distance from the limbus shown in column C) and there is only one blue (stained) region (length in column J).

4. Measurements shown in section 2 are converted to microns.

5. Table of measurements shown in section 3 are converted to microns.
- Column A: Stripe reference number (repeated from section 3)
- Column B: This repeats the conversion factor alongside each stripe.
- Columns C & D: The values shown in column C in section 3 are converted to microns.
- Column E: The cornea circumference in microns alongside each stripe (repeated from section 4 but not shown for all eyes).
- Columns F-H (highlighted in yellow): Calculations relating stripe width and circumference. These are not included for every eye but the primary data (stripe width and circumference) is included for every eye.
- Column I: Empty.
- Columns J-N (or J-P): The values shown in the same columns in section 3 are converted to microns.