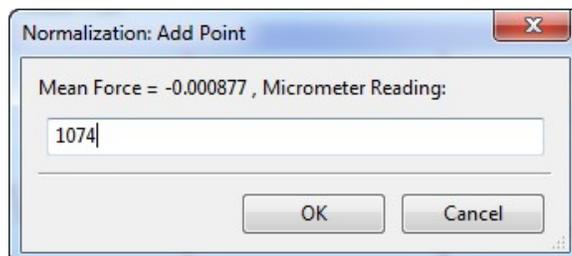# Myograph Normalization with LabScribe

Normalization

Normalization is a separately licensed module designed specifically to calibrate small vessel size for the use of wire myographs in vessel contractility experiments. In order to make comparisons between different vessels and experimental conditions, an internal circumference that exerts a **Target Pressure** needs to be determined to make comparisons meaningful. The relaxed vessel wall is stretched to a number of micrometer settings for a specific size myograph. The vessel wall force in response to each stretch is recorded by using the **Add Point** command. After a curve is generated from these forces, the **Calculate** command is used to determine the internal circumference at a **Target Pressure**, usually 13.3kPa. The normalized internal circumference is usually determined to be 90% of this value.
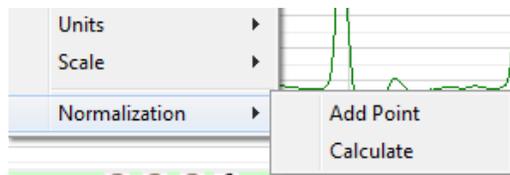
The Normalization submenu.

The **Normalization** module is accessed by right-clicking in the appropriate wire myograph channel display area. **Normalization** will be at the bottom of the menu.
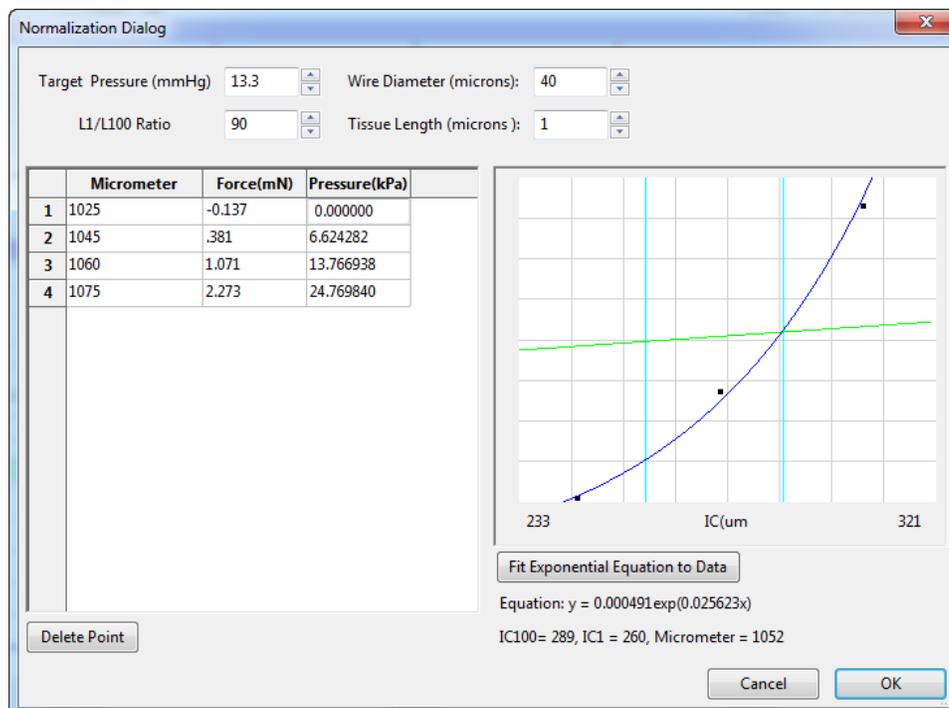
To use the **Normalization** module:

The Normalization: Add Point dialog.

- Calibrate the myograph(s) to be used in the experiment, according to procedures outlined in the myograph documentation.
- With the wires positioned and exerting no stretch, click **Record**.
- If the wires have been properly calibrated, the pressure should be zero. Click **Stop**.
- In **Two Cursor Mode**, position the cursors on either side of a representative section of the trace and select **Add Point** from the **Normalization** menu. The mean value between the cursors will be recorded in the **Normalization Dialog**.
- Increase the micrometer setting to stretch the vessel wall minimally. Click **Record**.
- After the pressure has stabilized, click **Stop**.

- Position the cursors on either side of a stabilized section of the trace and select **Add Point** from the **Normalization** menu.
- Repeat this procedure for a number of micrometer settings. Once enough points have been recorded, select **Calculate** from the **Normalization** menu, opening the **Normalization Dialog**. The micrometer setting, the force registered by the wires, and the vessel wall pressure are displayed for each data point recorded.
- In the **Normalization Dialog**, enter the **Target Pressure**, the **Wire Diameter**, the **IC Ratio**, and the **Vessel Length.**
- Click **Fit Exponential Equation to Data**. A graph is generated and the **Internal Circumference** at the **Target Pressure**, the normalized **IC**, and the correct micrometer setting for that normalized internal circumference are displayed.
- Outlying data points can be deleted by selecting the point and clicking **Delete Point.**

The

Normalization Dialog.