**Methods:**

Temperature adaptation dynamics for increasing temperature were fit with a double exponential equation using Matlab (Mathworks, Natick, MA):

TADP(t) = Tinitial + A [ (1-exp(-t/τ1) + B (1-exp(-t/τ2))],

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameter | Increasing temperature | | Decreasing temperature | |
|  | Wildtype | Mutant | Wildtype | Mutant |
| Tinitial (°C) | 14.93 (14.44, 15.42) | 14.25 (13.81, 14.68) | 20.58 (20.04, 21.12) | 18.14 (17.64, 18.65) |
| A (°C) | 3.177 (2.646, 3.708) | 2.355 (1.921, 2.789) | -5.475 (-6.24, -4.71) | -3.731 (-4.496, -2.967) |
| B | 0.9222 (0.7097, 1.135) | |  | |
| τ1 (min) | 2.638 (1.601, 3.676) | | 175.9 (118.1, 233.7) | |
| τ2 (min) | 225.9 (127.6, 324.2) | |  | |

where Tinitial, A, B, τ1, and τ2 are free parameters. A Nested F test indicated that the use of a second time constant term in this equation provided a better fit than a single time constant alone (p<0.001) for increasing temperatures. Further, additional Nested F tests indicated that, for increasing temperatures, only Tinitial and A were found to significantly vary between the mutant and wildtype. Using separate τ1, τ2, and B parameters for mutant and wildtype produced Nested F test P values of 0.37, 0.89, and 0.58, respectively.

For temperature adaptation dynamics with decreasing temperatures, only a single exponential was needed (Nested F test, P<1), and so B and τ2 do not appear. Tinitial and A varied between the mutant and wildtype. Using separate τ1 parameters for mutant and wildtype produced a Nested F test P value of 1.

Table of best fit parameter values and 95% confidence intervals.

In the figure, \* indicates significant differences between wildtype and mutant (ANOVA followed by Tukey post-hoc test, P<0.05).