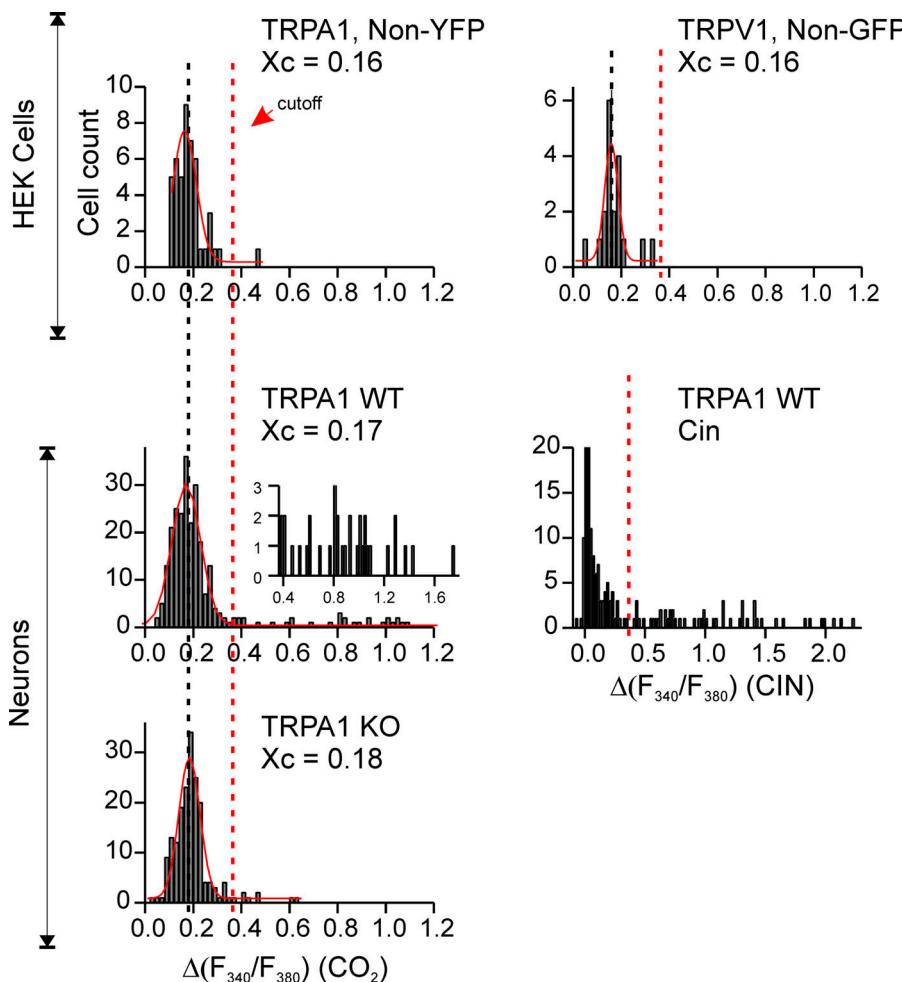


Wang et al., <http://www.jgp.org/cgi/content/full/jgp.201110615/DC1>



**Figure S1.** Distribution of nonspecific responses to PA in transfected cells and neurons. Amplitude histograms were constructed by counting the number of cells responding to PA (or Cin) with a given change in  $F_{340}/F_{380}$  (0.02 AU bins; Origin) from experiments shown in Fig. 9, using trigeminal neurons, or those shown in Fig. 8, using transfected HEK cells (top). Data were fit with a single Gaussian, from which we derived the midpoint and standard deviation of the small amplitude nonspecific response. The midpoint of the Gaussian is indicated by “ $X_c$ .” Note that this analysis is relatively insensitive to responses that are outside the normal distribution. The small amplitude response was of nearly identical magnitude in all cells under all conditions. A cutoff for designation of a specific response (red dashed line; 0.365 AU) was determined as four standard deviations from the mean of the nonspecific response using the mean and standard deviation from knockout neurons (mean = 0.184; SD = 0.044). This cutoff was also applied to Cin responses from wild-type trigeminal neurons (see bottom right panel for example). Inset shows large amplitude responses to PA from wild-type neurons at higher resolution.