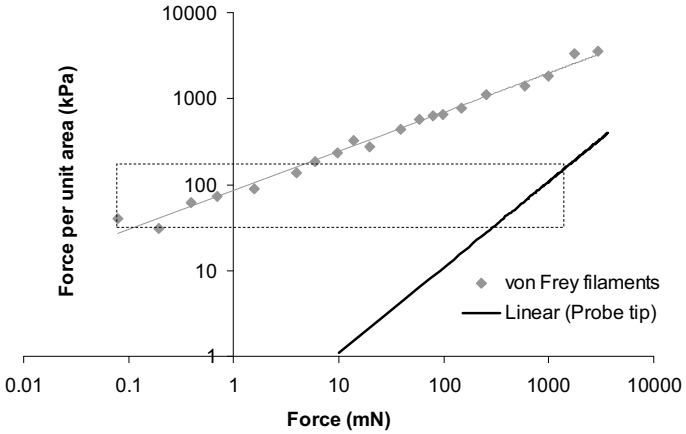
Fig. S1. Constant displacement stimuli applied in our experiments have comparable compressive stresses to the minimum stress applied by von Frey filaments. Grey diamonds are calculated pressures (stress, in kPa) for each von Frey filament with a linear regression line. Calculated von Frey pressures assume perpendicular contact with the end of a cylinder, making these values underestimates of the pressures actually applied by the filaments. The black line shows the pressure/force relationship for our cylindrical probe over the force range typically used in our experiments. The dashed box highlights the pressure range of the von Frey filaments most commonly used to probe the function of light touch receptors.

Fig. S2. Slowly adapting afferents separated by coefficient of variation produce audibly discriminable firing patterns. SAI response firing patterns are quite irregular, characterized by the random “popcorn popping” pattern of action potentials during a sustained stimulus (Fig. S2: SAI.wav). SAII responses, by contrast, present extremely regular trains of action potentials, one example of which is (Fig. S2: SAII.wav).


10000
1000
100
10
1
Force per unit area (kPa)
0.01
0.1
1
10
100
1000
10000
Force (mN)
von Frey filaments
Linear (Probe tip)