# Supplementary Material

## Supplementary Figure 1:

Example responses to pure tones and harmonic complex tones from a pitch-selective neuron (**a, d**) (Unit M36n-514) and a non-pitch-selective neuron (**b, e**) (Unit M2p-140). **a**. Pure tone frequency response from a pitch-selective neuron. **b**. Pure tone frequency response from a non-pitch neuron. **c**. Harmonic complex tone stimuli used in generating responses shown in **d)** and **e)**. The fundamental frequency component ($f_0$) is only present in the top stimulus and is placed at the neuron's CF. The bottom five stimuli lack the $f_0$ component and have all of the harmonics outside the neuron's excitatory frequency response area. **d**. Harmonic complex response from a pitch-selective neuron. This neuron responds to all stimuli, including when the $f_0$ component is missing. The harmonic complex stimuli have Schroeder negative phase. **e**. Harmonic complex response from a non-pitch neuron. This neuron only responds to a harmonic complex when the $f_0$ component (located at its CF) is present. The harmonic complex stimuli have cosine phase.

## Supplementary Figure 2:

**a, b**. CF maps and locations of pitch-selective neurons from two additional marmosets. **c**. Distribution of standard deviations of CFs (in octaves) in three cortical CF maps. The CF at each location on a map was determined by taking the median of the CFs from neighboring recording sites within a 0.25 mm radius.

**Supplementary Figure 3:**

Pitch-selective neurons show similar tuning to pure tones and MFs. **a-b**. Two additional examples of the tuning of individual pitch-selective neurons, Unit M41o-294 (**a**) and Unit M2p_207 (**b**) to pure tone frequency and the $f_0$ of MFs.

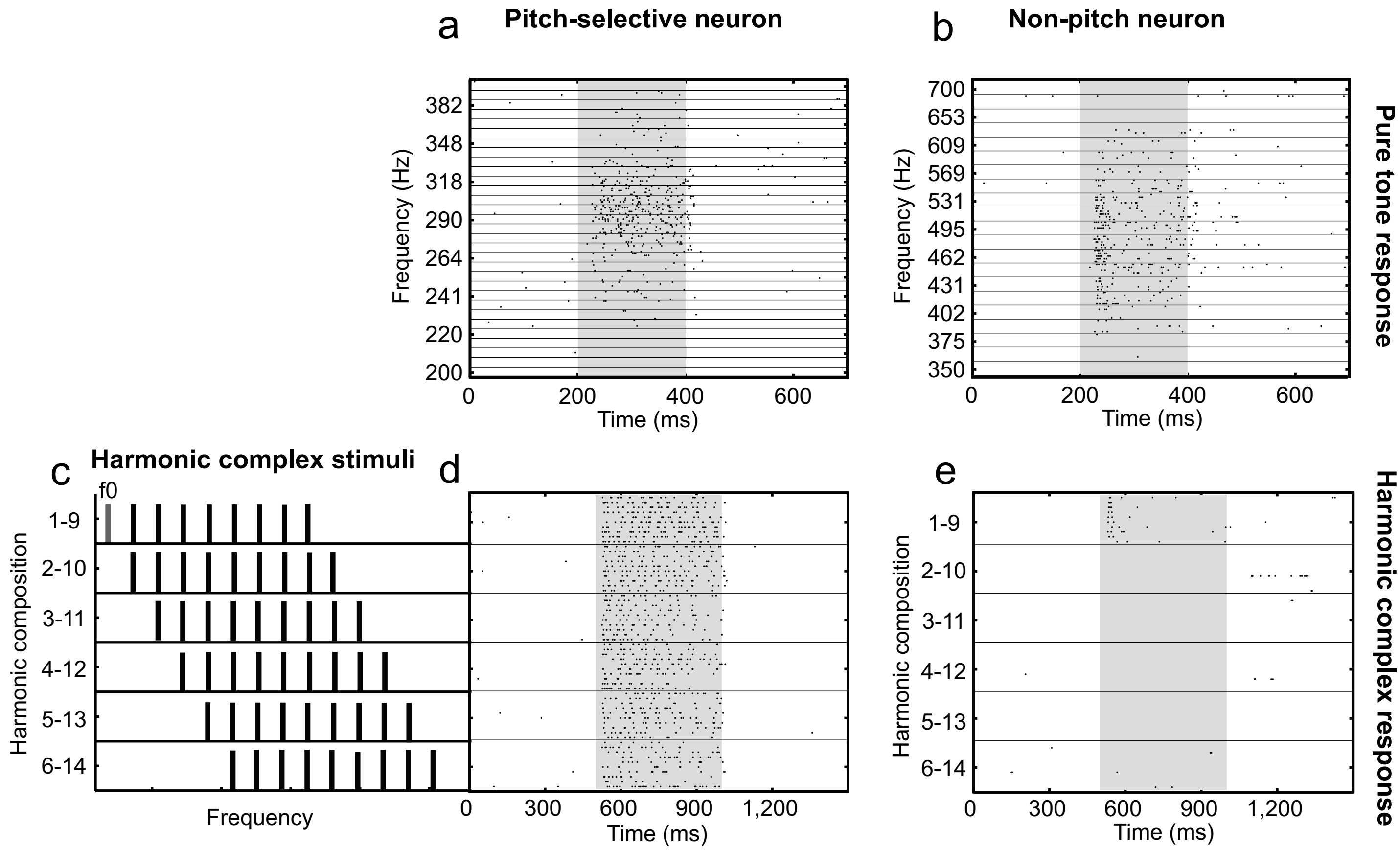
**Supplementary Figure 4:**

Neuronal responses to changes in pitch salience. Error bars represent SEM. **a**. Response of a pitch-selective neuron (Unit M41o-248) to irregular click trains with a tone carrier. The discharge rate of the neuron decreased as the pitch strength of the click train decreased (with increasing temporal jitter). **b**. Response of a pitch-selective neuron (Unit M36n-523) to irregular click trains with a noise carrier. The discharge rate of the neuron decreased as the pitch strength of the click train decreased (with increasing temporal jitter). **c**. Response of a pitch-selective neuron (Unit M36n-514) to IRN stimuli. The discharge rate increased with increasing pitch salience (caused by increasing the number of iterations used to generate the IRN stimuli).

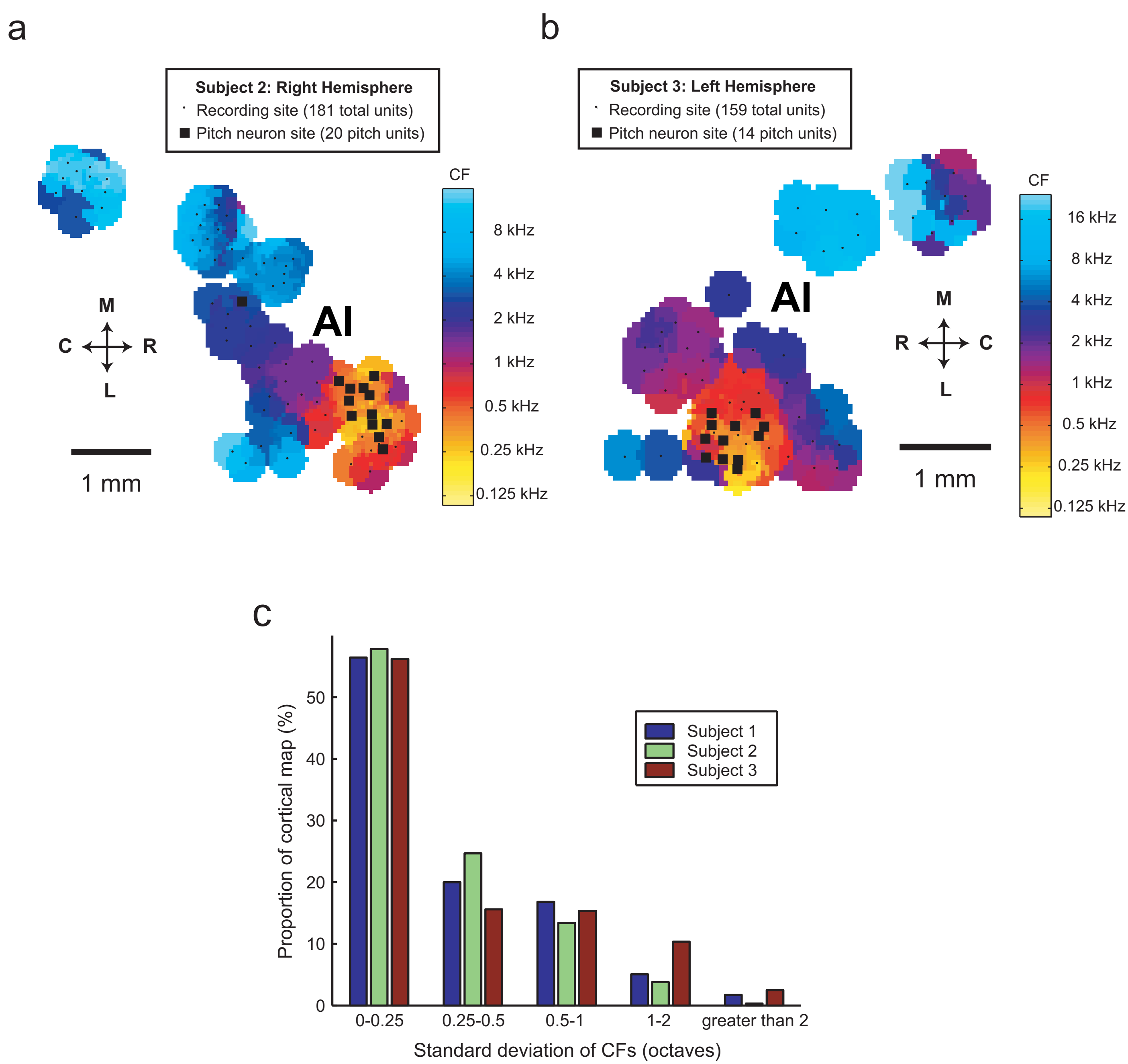
**Supplementary Figure 5:**

Noise masker responses from pitch-selective neurons. **a**. Responses of pitch-selective neurons (n=8) to the noise masker played alone. **b**. Responses of an individual pitch-selective neuron (Unit M2p-163) to a pure tone at the neuron's CF (60 dB SPL) or an MF (70 dB SPL, 10 dB above threshold) with and without a noise masker (1.5 oct., 60 dB SPL). The noise masker played alone does not elicit a significant response. Error bars represent SEM. Responses above the dotted line (2 std above the spontaneous discharge rate) are considered significant.

Bendor and Wang Supplementary Figure 1

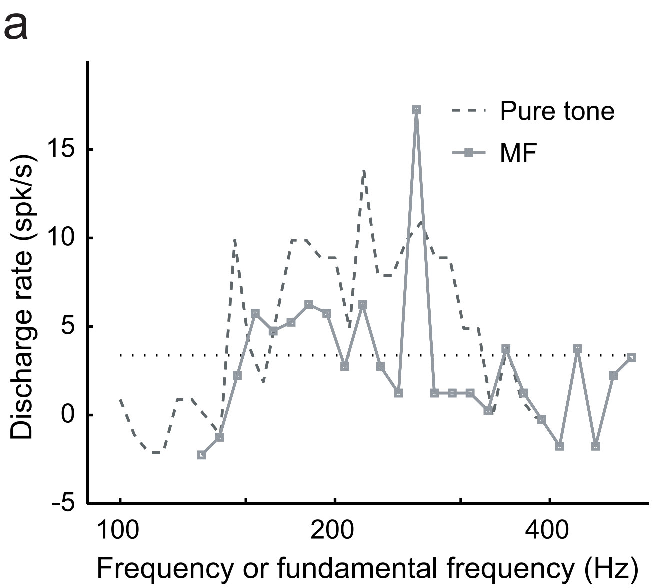


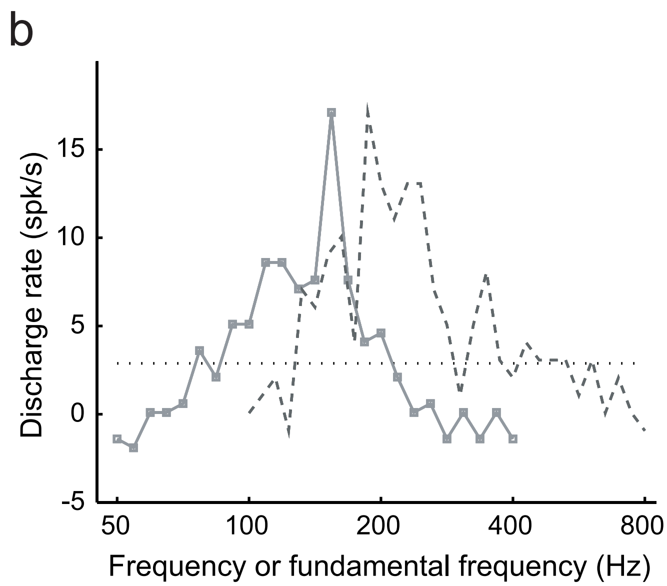
Bendor and Wang Supplementary Figure 2



Bendor and Wang  Supplementary Figure 3

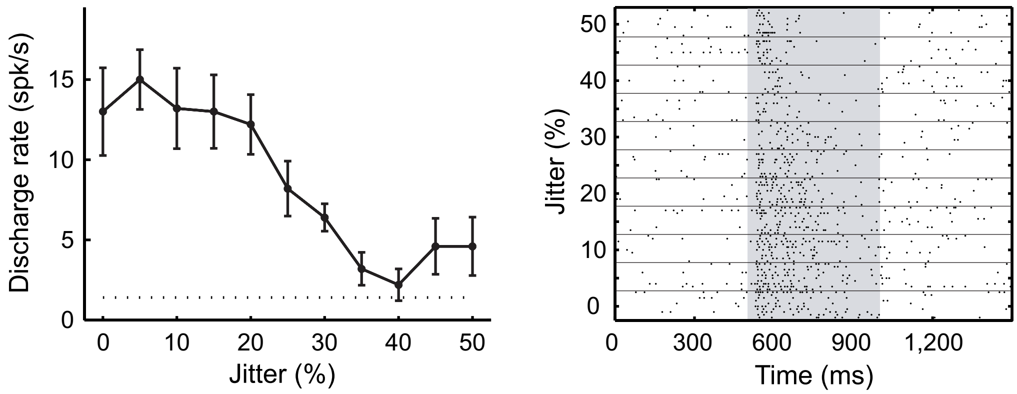
Individual neuronal responses to pure tones and MFs



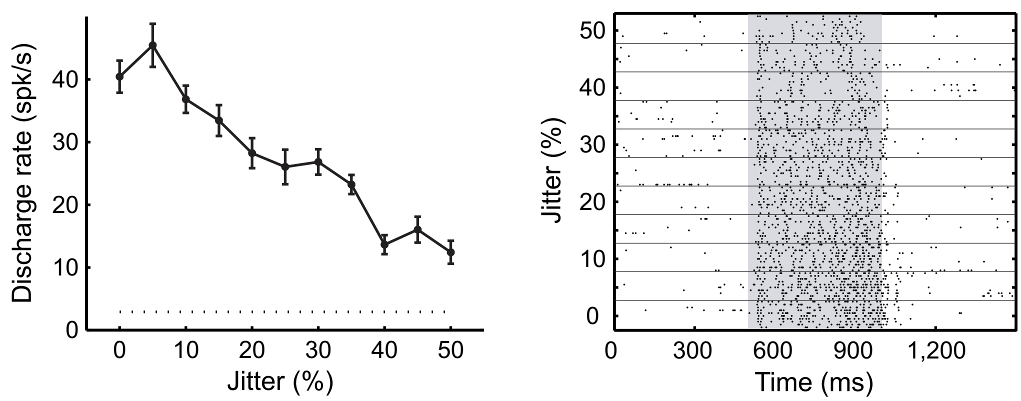



Bendor and Wang Supplementary Figure 4

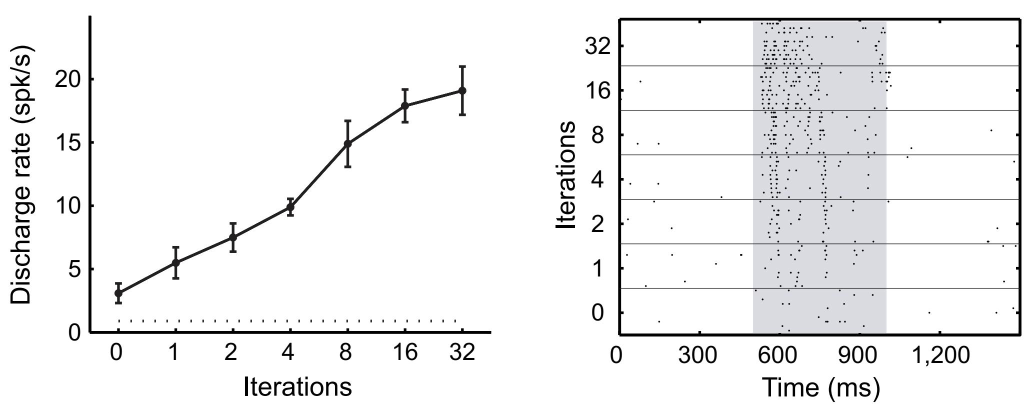
a A pitch-selective neuron's response to irregular click trains with a tone carrier




b A pitch-selective neuron's response to irregular click trains with a noise carrier

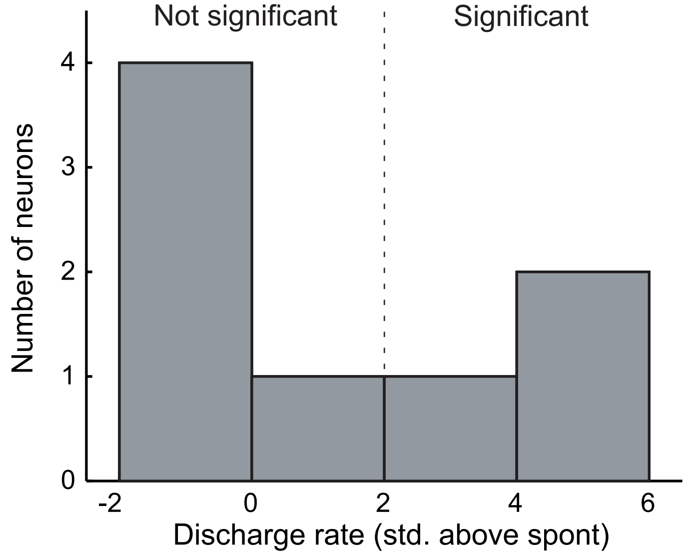



c A pitch-selective neuron's response to iterated ripple noise



Bendor and Wang Supplementary Figure 5

a Response of pitch selective neurons to noise masker alone (n=8)




b Response of a pitch selective neuron to pure tones and MFs in the presence of a noise masker