Supplementary material legends

Supp. Figure 1

Histograms of the neuron-specific SI at different probabilities (A, 90/10%; B, 70/30%), frequency contrasts (columns) and stimulation rates (rows). Because each neuron was tested using several combinations of parameters, individual neurons may be represented in more than one panel. The numbers on the top corners indicate the number of dots on each side of the descending diagonal. The red vertical lines indicate the mean. (cf. Figure 5)

Supp. Figure

A NSSI value was calculated for each stimulation condition, yielding several NSSI values for each neuron. We calculated the average NSSI for each neuron and plotted the distribution of these values. We then fitted the distribution with a curve consisting of one, two or three Gaussian functions. A single Gaussian curve fits the data poorly (A, \( R^2 = 0.671 \)), and it does not describe the distribution. A two Gaussian model (B) fits much better (\( R^2 =0.958 \)), and is statistically a better model than the first one (F test, F ratio = 32.524, p < 0.001). Although a three Gaussian model (C) represents only a slight improvement in the fit (\( R^2 = 0.981 \)), it is significantly better than the two Gaussian model (F test, F ratio = 4.371, p <0.01). The means of the Gaussian functions that yield the best fit to the NSSI distribution are 0.057, 0.384 and 0.870. The triangles on the x-axis represent the average NSSI value of each group following our own classification (non-adapting 0.015; partially adapting, 0.31; novelty, 0.76).

Supp. Figure 3.
Histograms showing the average neuron-specific SI across conditions separately for non-adapting neurons (NSSI values under all conditions < 0.25), novelty neurons (NSSI values under all conditions > 0.5), and partially adapted, when NSSI values for a single neuron may be < 0.25 or > 0.5 depending on the condition tested.

**Supp. Figure 4.**

Distribution of the first-spike latency for stimuli presented as standard or oddball.