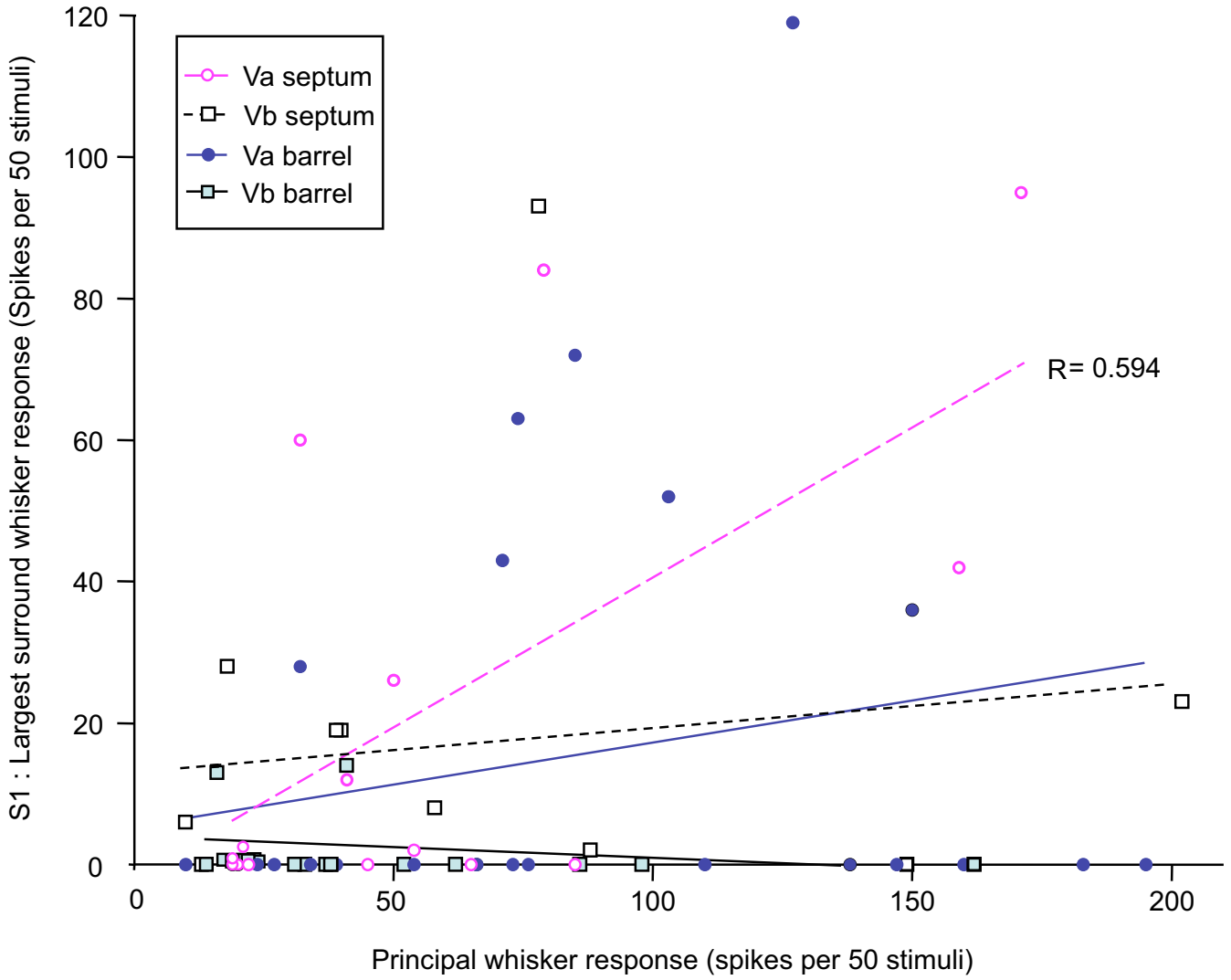
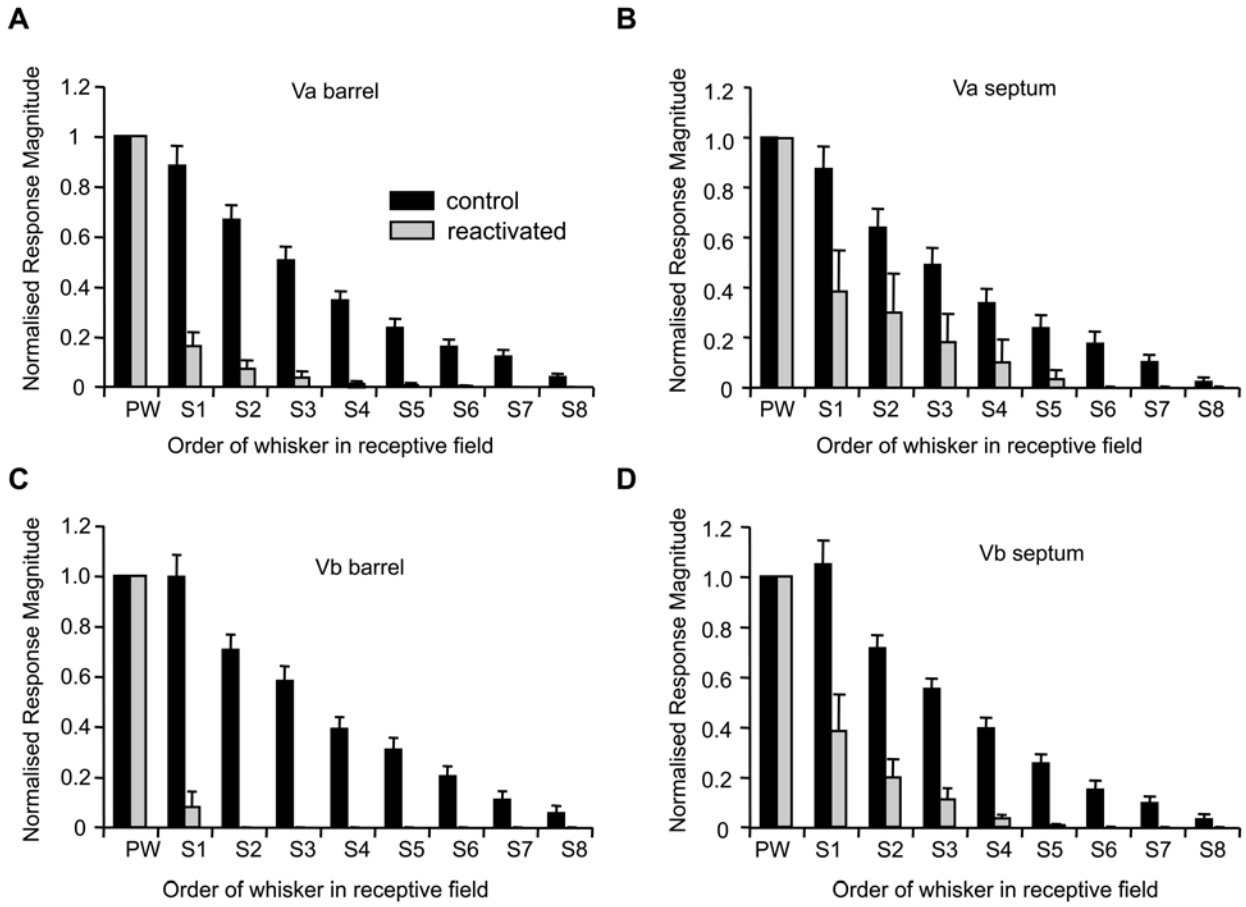

Va septum
Vb septum
Va barrel
Vb barrel
R= 0.594
S1 : Largest surround whisker response (Spikes per 50 stimuli)
Principal whisker response (spikes per 50 stimuli)
0
20
40
60
80
100
120
0
50
100
150
200

Supplementary Figure 2



Supplementary Figure 1. Relationship between principal whisker reactivation and the strongest surround whisker activation (S1) for different subdivisions of layer V. Layer Va septal cells show some correlation between the level of response of the reactivated principal whisker and where present surround whisker (magenta circles and dashed line, $R = 0.594$, $p<0.01$). However, there is no significant correlation for any other subdivision of layer V and layer Vb barrel cells (grey squares, solid line) show no surround whisker responses at all in most cases (all but 2). Note that a large number of points obscure one another by lying superimposed on the x axis (i.e. zero surround response). Layer Vb septum (white squares, dashed black line) and layer Va barrel (blue cirlces, solid blue line) show no correlation ($\alpha = 0.05$).

Supplementary Figure 2. Normalised receptive field responses of cells reactivated by BMC under control (black bars) or muscimol inhibition (grey bars).

A. Responses of layer Va barrel neurones **B.** layer Va septal neurones **C.** layer Vb barrel neurones **D.** layer Vb septal neurons. Note that cells in barrel regions of layer V (**A** and **C**) show a predominantly single whisker response, while those in septal regions of layer V (**B** and **D**) show greater multi-whisker responses.