

S5 Table: Phenotypic description of PNs in *wild-type*, *Sema-1a* LOF and rescue experiments in Figures 1 and 4 and S5, S6 and S10 Figures

| | type of PN (emb/larval) ^a | conditions of <i>Sema-1a</i> expression | total number (n) | % of dendritic mis-targeting to the SEZ | % of dendritic occupancy in Brp negative regions and/or partial glomerulus | % of other dendritic mis-targeting | notes |
|--|--|---|------------------|---|--|------------------------------------|--|
| <i>Sema-1a</i> -deficient PNs with a phenotype of dendritic mis-targeting to the SEZ | DA4m adPN ^e (emb; S5 Fig.) | <i>wt</i> | 4 | 0% | 0% | 25% ^d | ^d a few dendritic arbors around the DC1 glomerulus |
| | | <i>Sema-1a</i> ^{P1} | 4 | 100% ^b | 0% | 50% ^d | ^b dendritic innervation in the SEZ ^d partial dendritic innervation in the DA3 glomerulus |
| | VL2p adPN ^e (emb; Fig.4) | <i>wt</i> | 43 | 0% | 0% | 14% ^d | ^d some dendritic arbors posterior to DP1m, V or VL1 glomerulus or posterior to the AL (9%) and b a patch of dendritic arbors ventrally around the VC1 glomerulus (5%) |
| | | <i>Sema-1a</i> ^{P1} | 15 | 87% ^b | 0% | 87% ^d | ^b dendritic innervation to the SEZ (13% out of 87% without the innervation around the VC1 glomerulus) ^d dendritic innervation mostly to the region posterior to the VC1 glomerulus (13% out of 87% without the SEZ innervation) |
| | DA1 IPN (larval; S6 Fig.) | <i>wt</i> | 37 | 0% | 45% ^c | 0% | ^c dendritic innervation in the ventral (29%) or dorsal (16%) parts of the DA1 glomerulus |
| | | <i>Sema-1a</i> ^{P1} | 27 | 19% ^b | 89% ^c | 26% ^d | ^b dendritic innervation to the region ventral to the DP1m glomerulus ^c dendritic innervation in the dorsal part of the DA1 glomerulus (89%) ^d dendritic mis-targeting along the DL-to-VM axis of the AL as described previously (Komiya <i>et al.</i> , 2007) |
| | | <i>Sema-1a</i> ^{P1} + <i>Sema-1a</i> | 24 | 0% | 100% ^c | 0% | ^c dendritic innervation in the ventral part and/or outside of the DA1 glomerulus (Brp negative region) |
| | diffuse vPN ^e (larval; Fig.1) | <i>wt</i> | 6 | 0% | 0% | 0% | |
| | | <i>Sema-1a</i> ^{P1} | 4 | 100% ^b | 0% | 100% ^d | ^b dendritic innervation in the SEZ ^d heavy dendritic accumulation in the DA3 glomerulus |
| | | <i>Sema-1a</i> ^{P1} + <i>Sema-1a</i> | 7 | 0% | 100% ^c | 29% ^d | ^c no/rarely dendritic innervation in the DA3 glomerulus ^d dendritic innervation across midline to the contralateral AL |
| | SEZ adPN (emb; S10 Fig.) | <i>Sema-1a</i> ^{P1} | 17 | 100% ^b | 0% | 0% | ^b dendritic innervation to the SEZ and no dendritic innervation in the AL |
| | SEZ adPN (larval; S10 Fig.) | <i>Sema-1a</i> ^{P1} | 3 | 100% ^b | 0% | 0% | ^b dendritic innervation to the SEZ and no dendritic innervation in the AL |
| | SEZ IPN (larval; S10 Fig.) | <i>Sema-1a</i> ^{P1} | 3 | 100% ^b | 0% | 0% | ^b dendritic innervation to the SEZ and no dendritic innervation in the AL |

^a emb:embryonic-born; larval: larval-born

^{b, c, d} see the description in the column of notes

^e same types of PNs can be also seen in different classes of dendritic mis-targeting phenotypes in Tables 1 and 2