

## Supplementary information

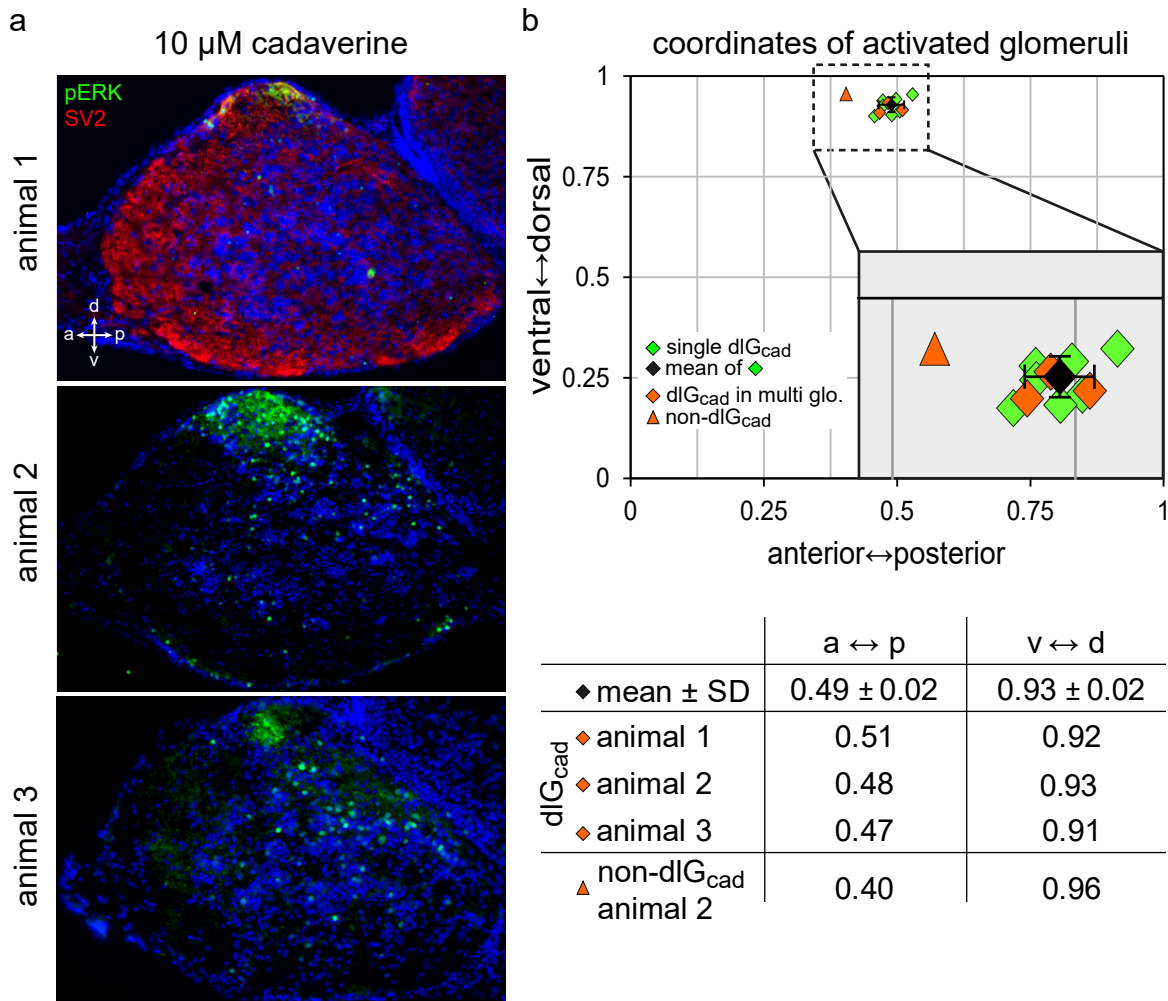
A single identified glomerulus in the zebrafish olfactory bulb carries the high-affinity response to death-associated odor cadaverine

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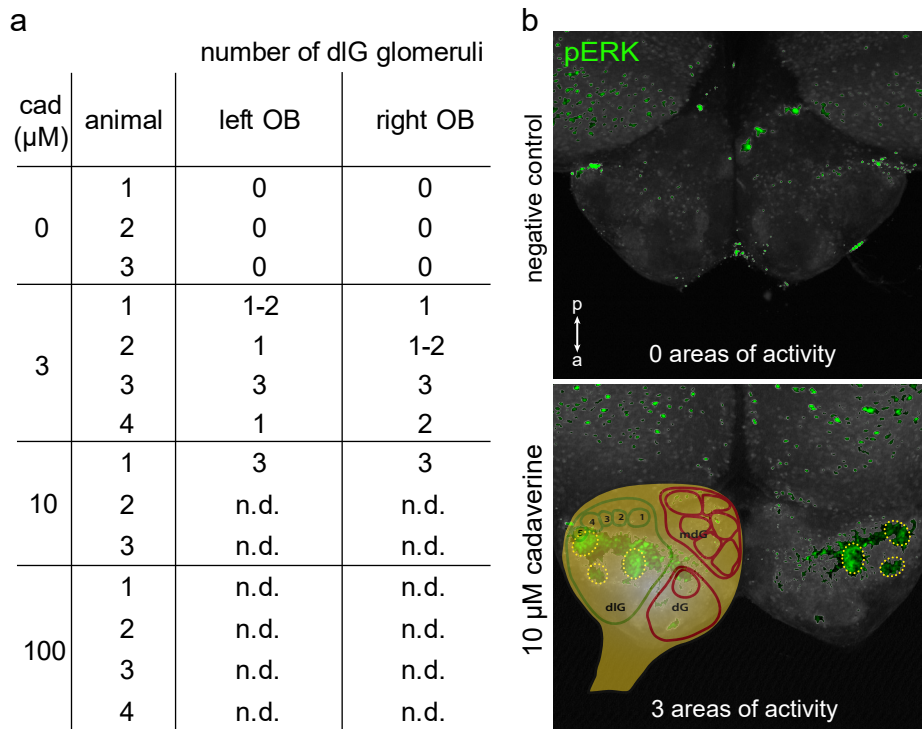
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*SI Figure 1 The dIG<sub>cad</sub> can also be found in bulbi with multiple pERK-labelled glomeruli*

a)  $\alpha$ -pERK labels active glomeruli in cryostat sections of the olfactory bulb from 3 different animals stimulated with 10  $\mu$ M cadaverine. b) Top panel, mapped glomerular positions are shown in the coordinate system used. Green squares, glomerular position, when only a single glomerulus was labelled (n=7, from 3 animals exposed to 3  $\mu$ M and 1 animal exposed to 10  $\mu$ M cadaverine, respectively); black square and error bars, average position  $\pm$  SD; orange squares, three examples for dIG<sub>cad</sub> positions in cases where multiple glomeruli were labelled; orange triangle, an adjacent non-dIG<sub>cad</sub> glomerulus. Note the unambiguous identification of the dIG<sub>cad</sub> glomerulus in all three cases with multiple labelled glomeruli, and the clear distinction even to the directly adjacent non-dIG<sub>cad</sub> glomerulus (this was the only case in which a non-dIG<sub>cad</sub> glomerulus was situated in the same section as the dIG<sub>cad</sub> glomerulus). Bottom panel, numeric values for coordinates of dIG<sub>cad</sub> and non-dIG<sub>cad</sub> glomeruli in experiments with multiple glomeruli labelled (orange symbols). For comparison the mean value for the 7 cases, in which a single glomerulus was labelled, is shown (black square). Note the clear distinction between positions of dIG<sub>cad</sub> and non-dIG<sub>cad</sub> glomeruli.



*SI Figure 2 Pronounced left-right symmetry of activated glomeruli*

In whole mount experiments we compared number and position of pERK-labelled glomerular-shaped areas in the left and right olfactory bulb. a) Table with numbers of activated glomeruli. In all cases, where delineation of glomeruli was unambiguously possible (all experiments with 3  $\mu\text{M}$ , and one with 10  $\mu\text{M}$  cadaverine), we observed a (nearly) equal number of glomeruli labelled on each side. b) Images show pERK-labelling in negative control (top panel) and after exposure to 10  $\mu\text{M}$  cadaverine (bottom panel). Olfactory bulbs are shown from the dorsal view. Activated glomeruli are outlined by dashed circles both in left and right olfactory bulb. A schematic glomerular map (drawn using main positional information from<sup>4</sup>) was made partially transparent and placed over the left olfactory bulb to visualize the position of cadaverine-responsive glomeruli in the dorsolateral cluster. n.d., not determined: an unambiguous identification of single glomeruli was impossible due to high signal density in the whole mount preparations.