**Data and code used for making Fig. 2**

**Folder: Fig2a**

* pIP10SL: Expression pattern of pIP10 split-LexA (Red channel) and pIP10 split-Gal4 (Green channel).

**Folder: Fig2b**

* Fig02\_Example\_TimeCourse\_OptStim\_Song\_pIP10L.m: Code for plotting the example trace during optogenetic activation of the pIP10 split-LexA in isolated male flies in Fig. 2b.
* EthogramComb\_pIP10L\_Chr.mat: Ethogram data used in Fig02\_Example\_TimeCourse\_OptStim\_Song\_pIP10L.m.
* Mic\_20211103\_01\_4.mat: Microphone data used in Fig02\_Example\_TimeCourse\_OptStim\_Song\_pIP10L.m.
* OptStim\_20211103\_01.mat: Timings of optogenetic stimulation used in Fig02\_Example\_TimeCourse\_OptStim\_Song\_pIP10L.m.

**Folder: Fig2c-h**

Analysis

* Fig02\_Example\_TimeCourseRaw\_dPR1TN1A.m: Code for plotting the time courses of delta F/F for a dPR1 (Fig. 2c) and a TN1A (Fig. 2f) neuron.
* TS\_Img.mat: Time stamps of calcium imaging.
* TS\_OptStimImg.mat: Timings of optogenetic stimulation during calcium imaging.
* Fig02\_AveTimeCourseSongTrans.m: Code for plotting calcium signals and song probabilities during song type transitions in Fig. 2d,g.
* Fig02\_QtoP\_dPR1TN1A.m: Code for plotting the mean change in ΔF/F after quiet-to-pulse transitions relative to ΔF/F before the transitions in Fig. 2e,h.

Data/Summary\_GENOTYPE

* EthogramComb.mat: File containing the time course of pulse/sine songs. Row: fly ID; Column: time bins at the resolution of microphone recording (1 kHz).
* EthogramCombImg.mat: Same as EthogramComb.mat but the time resolution of calcium imaging.
* FtimeCourseComb.mat: Mean calcium signals (F) in each ROI and the optogenetic stimulation strength in each trial. F\_comb: Time course of F for each ROI (ROI x Time bins x Blocks). Stim\_comb: Stimulation strength (from 1 to 6) in each trial (Column: block; Row: trial).
* Transitions.mat: Variables for running Fig02\_AveTimeCourseSongTrans.m.
* QtoPIndex.mat: Variables for running Fig02\_QtoP\_dPR1TN1A.m.