



**Fig. S1. Model of COUP-TFI involvement in activity-dependent TH expression in olfactory DAergic neurons.** (A) Olfactory deprivation triggers a downregulation of COUP-TFI, Zif268<sup>1</sup> and TH expression in OB GL. (B) Loss of COUP-TFI function decreases both Zif268 and TH in presence of normal sensory input. (C) Proposed model for COUP-TFI role in sensory-dependent regulation of TH expression in the adult OB: COUP-TFI controls the cellular responsiveness to sensory input by regulating either directly and/or indirectly the activity of immediate early genes such as Zif268 and in turn influences TH expression. <sup>1</sup>Akiba et al., 2009; <sup>2</sup>Kress and Wullimann, 2012; <sup>3</sup>Akiba et al., 2010; <sup>4</sup>Banerjee et al., 2013; <sup>5</sup>Cigola et al., 1998.