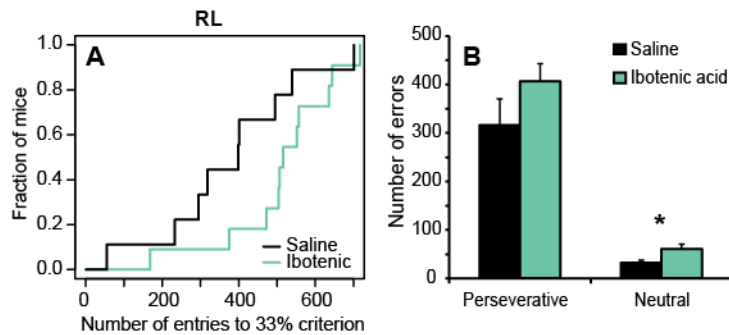


**Supplementary figure 1 | Number of rewards earned during DL.** (A) There was a trend towards more rewards earned during the two days of the DL stage in APP/PS1 mice ( $+p = 0.061$ ). (B)  $\alpha$ CaMKII T305D mice earned more rewards than WT controls ( $*p = 0.026$ ). Mean  $\pm$  SEM.



**Supplementary figure 2 | Effect of OFC lesions on reversal performance to chance level (33%).** (A) There was a trend towards more entries to 33% criterion in OFC lesioned mice ( $p = 0.135$ ). (B) Errors made before mice reached the 33% performance criterion. Effect of lesion ( $p = 0.109$ ); Lesion effect on perseverative errors ( $p = 0.172$ , FDR corrected); Lesion effect on neutral errors ( $p = 0.042$ , FDR corrected). Mean  $\pm$  SEM.