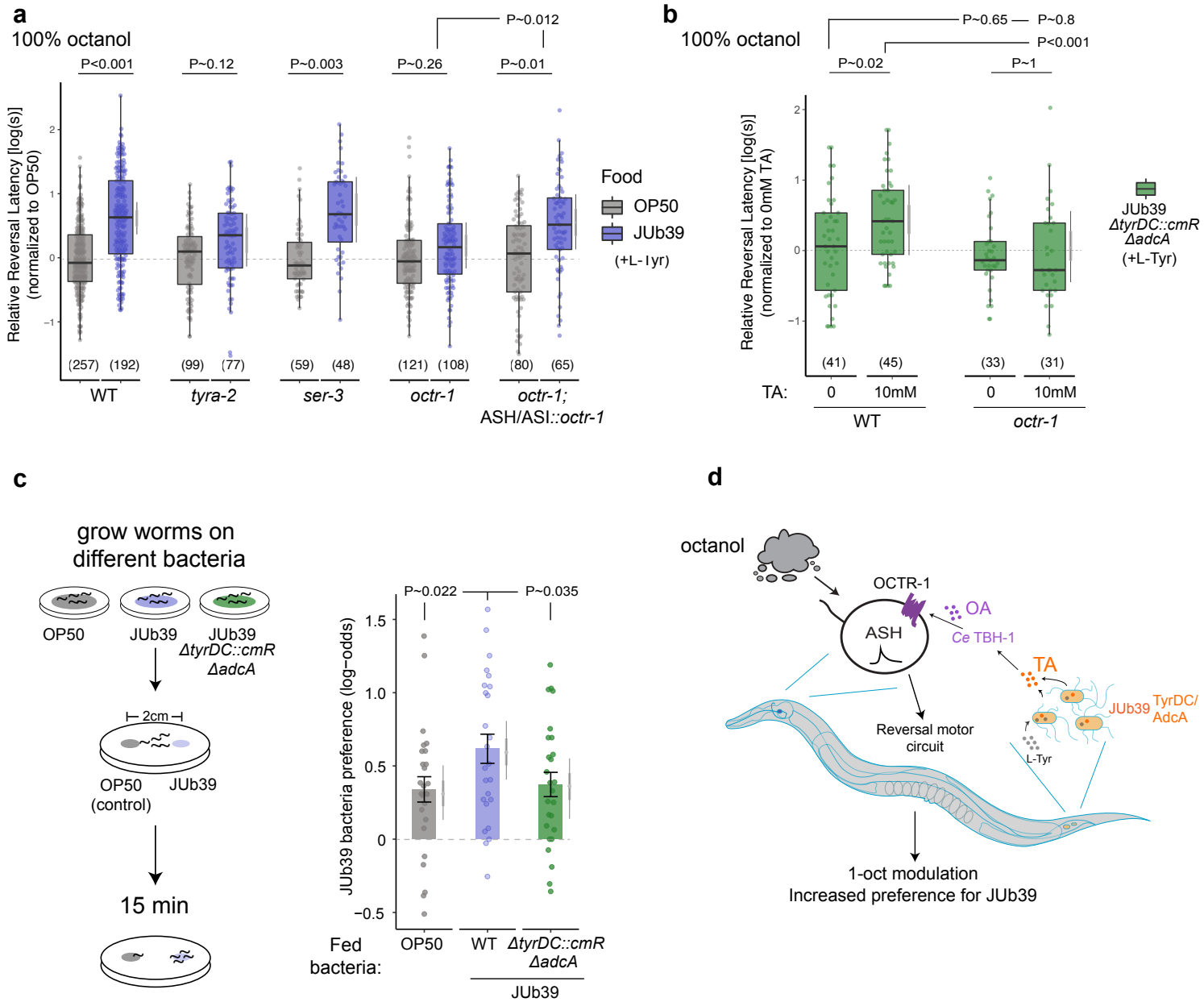

Fig. 4. Modulation of octanol avoidance by *Providencia* requires the OCTR-1 OA receptor in the ASH/ASI sensory neurons.

a-b) Reversal response latency of animals of the indicated genotypes grown on the shown bacteria in control conditions of NGM + 0.5% L-Tyr **(a)** or supplemented with TA + 0.5% L-Tyr **(b)** to 100% octanol using SOS assays. Each dot is the response time of a single worm. Y-axis is $\log_{10}$-scaled for these log-normal distributed data, and normalized to the indicated control group for each experimental day. Numbers in parentheses indicate the number of worms tested in assays over at least 3 independent days. Boxplot indicates median and quartiles, whiskers indicate the data range, excluding outliers. Gray thin and thick vertical bars at right indicate Bayesian 95% and 66% credible intervals for the difference of means, respectively. *P*-values between indicated conditions are from a LMM with Tukey-type multivariate-t adjustment.

c) (Left) Cartoon depicting assay setup of the short-range bacterial choice assay. (Right) Preference index of animals grown on the indicated bacteria for the test bacteria JUb39. Each dot represents one assay of at least 10 animals; assays were performed over at least 4 independent days. Y-axis is on log-odds (logit) scale. Errors are SEM. Gray thin and thick vertical bars at right indicate Bayesian 95% and 66% credible intervals, respectively. *P*-values represent difference of means relative to JUb39-grown animals from a GLMM with Dunnett-type multivariate-t adjustment.

d) Cartoon of working model. JUb39 colonizes the *C. elegans* intestine and produces TA via the TyrDC and AdcA enzymes. TA is converted to OA by *C. elegans* TBH-1 and acts via the ASH neuron-expressed OCTR-1 OA receptor to modulate octanol avoidance and food choice.