Supplements:

Table S1: Sample sizes. The amount of samples is shown for each experiment. Firstly, each single experiment has an amount of measured values, the experiments were done in three to four independent single experiments.

Experiment	Per sample	Amount of independent experiments	Whole data set
Figure 1A	2 independent fields with 100 cells	3	6 fields with 600 cells
Figure 1B and C	1 RNA isolation per treatment	3	3
Figure 1D + E	2 independent fields with 100 cells	3	6 fields with 600 cells
Figure 1F	6 x 10 neurites	3	180
Figure 2B	2 independent fields with 100 cells	3	6 fields with 600 cells
Figure 2C	6 x 10 neurites	3	180
Figure 3	4 values per treatment	4	16
Figure 4B	4 values per treatment	4	16
Figure 5B + C + D	4 values per treatment	4	16
Figure 6A + B + C	1 RNA isolation per treatment	3	3
Figure 7A +B	1 RNA isolation per treatment	3	3

Table S2: Test of normal distribution of the values shown in Figure 1E. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant $p > 0.05$; * $p < 0.05$; ** $p < 0.01$).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
control	<0.0001	no	****	<0.0001	no	****
untransfected + NGF 200ng/ml	0.9069	yes	ns	>0.1000	yes	ns
Fyntag mCitrine + NGF 200ng/ml	0.5527	yes	ns	>0.1000	yes	ns
dnTrkA + NGF 200ng/ml	0.1991	yes	ns	0.0888	yes	ns
EtOH 0.5%	<0.0001	no	****	<0.0001	no	****
Untransfected + Erinacine C 5µg/ml 0.5%	0.7581	yes	ns	>0.1000	yes	ns
Fyntag mCitrine + Erinacine C 5µg/ml 0.5%	0.0021	no	**	0.0778	yes	ns
dnTrkA + Erinacine C 5µg/ml 0.5%	0.0110	no	*	>0.1000	yes	ns

Table S3: Test of normal distribution of the values shown in Figure 1F. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (**** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
control	<0.0001	no	****	<0.0001	no	****
untransfected + NGF 200ng/ml	<0.0001	no	****	0.0166	no	*
Fyntag mCitrine + NGF 200ng/ml	<0.0001	no	****	<0.0001	no	****
dnTrkA + NGF 200ng/ml	<0.0001	no	****	<0.0001	no	****
EtOH 0.5%	<0.0001	no	****	<0.0001	no	****
Untransfected + Erinacine C 5µg/ml 0.5%	<0.0001	no	****	0.0147	no	*
Fyntag mCitrine + Erinacine C 5µg/ml 0.5%	<0.0001	no	****	<0.0001	no	****
dnTrkA + Erinacine C 5µg/ml 0.5%	<0.0001	no	****	<0.0001	no	****

Table S4: Test of normal distribution of the values shown in Figure 2B. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
Control	<0.0001	no	****	<0.0001	no	****
NGF 200ng/ml	0.2832	yes	ns	>0.1000	yes	ns
K252a 300nM	0.2274	yes	ns	>0.1000	yes	ns
Bisindolyl-maleimide I 6µM	0.8998	yes	ns			
Ly294002 50µM	0.5662	yes	ns	>0.1000	yes	ns
PD98059 20µM	0.0012	no	**			
U0126 10nM	0.8734	yes	ns	>0.1000	yes	ns
Erinacine C 5µg/ml 0.5%	0.0068	no	**	0.0279	no	*
K252a 300nM	0.7408	yes	ns	>0.1000	yes	ns
Bisindolyl-maleimide I 6µM	0.737	yes	ns			
Ly294002 50µM	0.1776	yes	ns	>0.1000	yes	ns
PD98059 20µM	0.5601	yes	ns	>0.1000	yes	ns
U0126 10nM	0.0844	yes	ns	>0.1000	yes	ns

Table S5: Test of normal distribution of the values shown in Figure 2C. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant $p > 0.05$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.0001$).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
Control	<0.0001	no	****	<0.0001	no	****
NGF 200ng/ml	<0.0001	no	****	<0.0001	no	****
K252a 300nM	0.0893	yes	ns	>0.1000	yes	ns
Bisindolyl-maleimide I 6µM	<0.0001	no	****	<0.0001	no	****
Ly294002 50µM	0.0065	no	**	>0.1000	yes	ns
PD98059 20µM	0.4207	yes	ns	>0.1000	yes	ns
U0126 10nM	<0.0001	no	****	0.0300	no	*
Erinacine C 5µg/ml 0.5%	<0.0001	no	****	<0.0001	no	****
K252a 300nM	<0.0001	no	****	<0.0001	no	****
Bisindolyl-maleimide I 6µM	0.0002	no	***	0.0034	no	**
Ly294002 50µM	<0.0001	no	****	<0.0001	no	****
PD98059 20µM	0.0032	no	**	0.0005	no	***
U0126 10nM	<0.0001	no	****	<0.0001	no	****

Table S6: Test of normal distribution of the values shown in Figure 3. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
ERE	<0.0001	no	****	<0.0001	no	****
FOXO	<0.0001	no	****	<0.0001	no	****
NFY	<0.0001	no	****	<0.0001	no	****
NBRE	0.0004	no	***	0.0055	no	**
ETS	<0.0001	no	****	<0.0001	no	****
Tbox	<0.0001	no	****	<0.0001	no	****
Gli1	<0.0001	no	****	0.0002	no	***
NFkappaB	<0.0001	no	****	<0.0001	no	****
STAT3	0.0036	no	**	>0.1000	yes	ns
BRE	<0.0001	no	****	<0.0001	no	****
HRE	<0.0001	no	****	<0.0001	no	****
Elk1	<0.0001	no	****	0.0408	no	*
bHLH	<0.0001	no	****	<0.0001	no	****
Pea3b	<0.0001	no	****	<0.0001	no	****
KLF5	<0.0001	no	****	<0.0001	no	****
Dyrk1A	0.0011	no	**	0.0045	no	**
CREB	<0.0001	no	****	0.0002	no	***
Sim2	0.0014	no	**	0.0014	no	**
TEAD	<0.0001	no	****	<0.0001	no	****
SRE	0.2026	yes	ns	>0.1000	yes	ns
Lhx2-Sox2	0.0003	no	***	0.0022	no	**
a1ACT	0.0003	no	***	0.0005	no	***
Egr1	<0.0001	no	****	<0.0001	no	****
bZIP	<0.0001	no	****	<0.0001	no	****
HSE	0.0002	no	***	0.0085	no	**
NRF	0.1230	yes	ns	>0.1000	yes	ns
Sp1/KLF	<0.0001	no	****	<0.0001	no	****
NFAT/AP1	<0.0001	no	****	<0.0001	no	****
ARE	<0.0001	no	****	0.0115	no	*
E2F	0.0011	no	**	0.0102	no	*
Sox-Pou	<0.0001	no	****	0.0013	no	**
SF1	<0.0001	no	****	<0.0001	no	****
RBP7	<0.0001	no	****	<0.0001	no	****
TCF/LEF	<0.0001	no	****	0.0013	no	**
SBE	<0.0001	no	****	<0.0001	no	****
Runx	<0.0001	no	****	<0.0001	no	****
Fexf2	<0.0001	no	****	<0.0001	no	****
NFAT	<0.0001	no	****	<0.0001	no	****
LexA	<0.0001	no	****	<0.0001	no	****
Gal4	<0.0001	no	****	<0.0001	no	****

Table S7: Test of normal distribution of the values shown in Figure 4B. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
control	0.0006	no	***	0.0001	no	***
EtOH 0.5%	0.5234	yes	ns	>0.1000	yes	ns
Erinacine C 5µg/ml 0.5%	0.0857	yes	ns	>0.1000	yes	ns
pCS-ETS1$_{DBD}$-TA4 4xETS-Fluc 1:1	0.0650	yes	ns	0.0776	yes	ns
pCS-ETS1$_{DBD}$-TA4 4xETS-Fluc 1:5	<0.0001	no	****	<0.0001	no	****
pCS-ETS1$_{DBD}$-TA2 4xETS-Fluc 1:1	0.0003	no	***	0.0001	no	***
pCS-ETS1$_{DBD}$-TA2 4xETS-Fluc 1:5	<0.0001	no	****	<0.0001	no	****
pCS-ETS1$_{DBD}$-KRAB 4xETS-Fluc 1:1	0.0005	no	***	0.0007	no	***
pCS-ETS1$_{DBD}$-KRAB 4xETS-Fluc 1:5	0.0076	no	**	0.0112	no	*

Table S8: Test of normal distribution of the values shown in Figure 5B. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
EtOH 0.5%	0.2895	yes	ns	>0.1000	yes	ns
2x Erinacine C 3µg/ml 0.5%	0.926	yes	ns	>0.1000	yes	ns
2x Erinacine C 5µg/ml 0.5%	0.0014	no	**	0.0389	no	*
4x Erinacine C 3µg/ml 0.5%	0.05	no	*	>0.1000	yes	ns
4x Erinacine C 5µg/ml 0.5%	0.1327	yes	ns	>0.1000	yes	ns
6x Erinacine C 3µg/ml 0.5%	0.0005	no	***	<0.0001	no	****
6x Erinacine C 5µg/ml 0.5%	0.1008	yes	ns	>0.1000	yes	ns
8x Erinacine C 3µg/ml 0.5%	0.0463	no	*	>0.1000	yes	ns
8x Erinacine C 5µg/ml 0.5%	0.0119	no	*	0.0033	no	**

Table S9: Test of normal distribution of the values shown in Figure 5C. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
Control	0.0064	no	**	0.0019	no	**
EtOH 0.5%	0.0024	no	**	0.0221	no	*
1 µg/ml	0.0015	no	**	0.0007	no	***
2 µg/ml	0.0102	no	*	0.0387	no	*
3 µg/ml	0.0415	no	*	0.0088	no	**
4 µg/ml	0.3015	yes	ns	>0.1000	yes	ns
5 µg/ml	0.0003	no	***	<0.0001	no	****
10 µg/ml	0.0002	no	***	<0.0001	no	****
15 µg/ml	0.484	yes	ns	>0.1000	yes	ns

Table S10: Test of normal distribution of the values shown in Figure 5D. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
Control	<0.0001	no	****	0.0145	no	*
EtOH 0.5%	0.0023	no	**	0.0002	no	***
3h	0.0201	no	*	0.0173	no	*
6h	0.0465	no	*	0.0755	yes	ns
10h	0.0004	no	***	0.0005	no	***
16h	<0.0001	no	****	<0.0001	no	****
24h	<0.0001	no	****	<0.0001	no	****

Table S11: Test of normal distribution of the values shown in Figure 6B. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
Control *ngf* mRNA	>0.1000	yes	ns	>0.1000	yes	ns
Control *ets1* mRNA	>0.1000	yes	ns	>0.1000	yes	ns
EtOH 0.5% *ngf* mRNA	0.2793	yes	ns	>0.1000	yes	ns
EtOH 0.5% *ets1* mRNA	0.0057	no	**	0.005	no	**
3h *ngf* mRNA	0.1757	yes	ns	>0.1000	yes	ns
3h *ets1* mRNA	0.9416	yes	ns	>0.1000	yes	ns
6h *ngf* mRNA	0.0548	yes	ns	>0.1000	yes	ns
6h *ets1* mRNA	0.5998	yes	ns	>0.1000	yes	ns
10h *ngf* mRNA	0.0528	yes	ns	>0.1000	yes	ns
10h *ets1* mRNA	0.4785	yes	ns	>0.1000	yes	ns
16h *ngf* mRNA	0.0495	no	*	>0.1000	yes	ns
16h *ets1* mRNA	0.0688	yes	ns	>0.1000	yes	ns
24h *ngf* mRNA	0.0370	no	*	>0.1000	yes	ns
24h *ets1* mRNA	0.7011	yes	ns	>0.1000	yes	ns
32h *ngf* mRNA	0.0288	no	*	>0.1000	yes	ns
32h *ets1* mRNA	0.7249	yes	ns	>0.1000	yes	ns
48h *ngf* mRNA	0.1740	yes	ns	>0.1000	yes	ns
48h *ets1* mRNA	0.7312	yes	ns	>0.1000	yes	ns

Table S12: Test of normal distribution of the values shown in Figure 6C. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
Control 24h	>0.1000	yes	ns	>0.1000	yes	ns
pCS-ETS$_{DBD}$-TA4 24h	0.9977	yes	ns	>0.1000	yes	ns
pCS-ETS$_{DBD}$-TA2 24h	0.9901	yes	ns	>0.1000	yes	ns
Control 48h	>0.1000	yes	ns	>0.1000	yes	ns
pCS-ETS$_{DBD}$-TA4 48h	0.9941	yes	ns	>0.1000	yes	ns
pCS-ETS$_{DBD}$-TA2 48h	0.9968	yes	ns	>0.1000	yes	ns

Table S13: Test of normal distribution of the values shown in Figure 7A. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
EtOH 0.5% *ngf* mRNA	<0.0001	no	****	<0.0001	no	****
EtOH 0.5% *bdnf* mRNA	<0.0001	no	****	<0.0001	no	****
Erinacine C *ngf* mRNA	0.0166	no	*	0.084	yes	ns
Erinacine C *bdnf* mRNA	0.0465	no	*	>0.1000	yes	ns
Erinacine C + PD98059 *ngf* mRNA	0.4177	yes	ns	>0.1000	yes	ns
Erinacine C + PD98059 *bdnf* mRNA	0.1053	yes	ns	>0.1000	yes	ns
Erinacine C + U0126 *ngf* mRNA	0.1601	yes	ns	>0.1000	yes	ns
Erinacine C + U0126 *bdnf* mRNA	0.9806	yes	ns	>0.1000	yes	ns
Erinacine C + PD98059 + U0126 *ngf* mRNA	0.1604	yes	ns	>0.1000	yes	ns
Erinacine C + PD98059 + U0126 *bdnf* mRNA	0.8963	yes	ns	>0.1000	yes	ns

Table S14: Test of normal distribution of the values shown in Figure 7B. Normal distribution was tested with Shapiro-Wilk test and Kolmogrov-Smirnov, the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Shapiro-Wilk test	Normal distribution	Significance	Kolmogorov-Smirnov	Normal distribution	Significance
EtOH *ngf* mRNA	>0.1000	yes	ns	>0.1000	yes	ns
EtOH *bdnf* mRNA	>0.1000	yes	ns	>0.1000	yes	ns
Vehicle *ngf* mRNA	0.8262	yes	ns	>0.1000	yes	ns
Vehicle *bdnf* mRNA	0.6041	yes	ns	>0.1000	yes	ns
pCS-ETS$_{DBD}$-KRAB *ngf* mRNA	0.9739	yes	ns	>0.1000	yes	ns
pCS-ETS$_{DBD}$-KRAB *bdnf* mRNA	0.2189	yes	ns	>0.1000	yes	ns

Table S15: Test of statistical significance of the values shown in Figure 1E. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant $p > 0.05$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.0001$).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
control				
untransfected + NGF 200ng/ml			<0.0001 To control	**** To control
Fyntag mCitrine + NGF 200ng/ml			<0.0001 To control	**** To control
dnTrkA + NGF 200ng/ml			0.0013 To control	** To control
			<0.0001 To untransfected + NGF	**** To untransfected + NGF
			<0.0001 To Fyntag mCirtrine + NGF	**** To Fyntag mCirtrine + NGF
EtOH 0.5%			0.7772 To control	ns To control
Untransfected + Erinacine C 5µg/ml 0.5%			<0.0001 To control	**** To control
Fyntag mCitrine + Erinacine C 5µg/ml 0.5%			<0.0001 To EtOH	**** To EtOH
dnTrkA + Erinacine C 5µg/ml 0.5%			0.0226 To EtOH	* To EtOH
			0.0001 To untransfected + Erinacine C	*** To untransfected + Erinacine C
			<0.0001 To Fyntag mCritrine + Erinacine	**** To Fyntag mCitrine + Erinacine

Table S16: Test of statistical significance of the values shown in Figure 1F. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant $p > 0.05$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.0001$).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
control				
untransfected + NGF 200ng/ml			<0.0001 To control	**** To control
Fyntag mCitrine + NGF 200ng/ml			<0.0001 To control	**** To control
dnTrkA + NGF 200ng/ml			<0.0001 To control	**** To control
			<0.0001 To untransfected + NGF	**** To untransfected + NGF
			<0.0001 To Fyntag mCirtrine + NGF	**** To Fyntag mCirtrine + NGF
EtOH 0.5%			0.8337 To control	ns To control
Untransfected + Erinacine C 5µg/ml 0.5%			<0.0001 To control	**** To control
Fyntag mCitrine + Erinacine C 5µg/ml 0.5%			<0.0001 To EtOH	**** To EtOH
dnTrkA + Erinacine C 5µg/ml 0.5%			<0.0001 To EtOH	**** To EtOH
			<0.0001 To untransfected + Erinacine C	**** To untransfected + Erinacine C
			<0.0001 To Fyntag mCritrine + Erinacine	**** To Fyntag mCitrine + Erinacine

Table S17: Test of statistical significance of the values shown in Figure 2B. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant $p > 0.05$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.0001$).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
Control				
NGF 200ng/ml			<0.0001 To control	****
K252a 300nM	0.0322 To NGF	*		
Bisindolylmaleimide I 6µM	0.0008 To NGF	***		
Ly294002 50µM	0.0455 To NGF	*		
PD98059 20µM			0.0075 To NGF	**
U0126 10nM	0.0045 To NGF	**		
Erinacine C 5µg/ml 0.5%			0.0075 To control	**
K252a 300nM			0.0333 To Erinacine	*
Bisindolylmaleimide I 6µM			0.0487 To Erinacine	*
Ly294002 50µM			0.0301 To Erinacine	*
PD98059 20µM			0.0322 To Erinacine	*
U0126 10nM			0.0318 To Erinacine	*

Table S18: Test of statistical significance of the values shown in Figure 2C. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant $p > 0.05$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.0001$).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
Control				
NGF 200ng/ml			<0.0001 to control	****
K252a 300nM			0.0014 To NGF	**
Bisindolylmaleimide I 6µM			<0.0001 To NGF	****
Ly294002 50µM			0.0022 To NGF	**
PD98059 20µM			0.0002 To NGF	***
U0126 10nM			0.0019 To NGF	**
Erinacine C 5µg/ml 0.5%			0.00088 To control	***
K252a 300nM			0.0087 To Erinacine	**
Bisindolylmaleimide I 6µM			0.0221 To Erinacine	*
Ly294002 50µM			0.0012 To Erinacine	**
PD98059 20µM			0.0001 To Erinacine	***
U0126 10nM			0.0015 To Erinacine	**

Table S19: Test of statistical significance of the values shown in Figure 3. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant $p > 0.05$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.0001$).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
ERE			0.0357	*
FOXO			0.4245	ns
NFY			0.3863	ns
NBRE			0.1715	ns
ETS			0.0412	*
Tbox			0.3525	ns
Gli1			0.4779	ns
NFkappaB			0.7054	ns
STAT3			0.0882	ns
BRE			0.9690	ns
HRE			0.9152	ns
Elk1			0.0510	ns
bHLH			0.1437	ns
Pea3b			0.1929	ns
KLF5			0.8990	ns
Dyrk1A			0.9894	ns
CREB			>0.9999	ns
Sim2			0.7437	ns
TEAD			0.7170	ns
SRE			0.6558	ns
Lhx2-Sox2			0.7131	ns
a1ACT			>0.9999	ns
Egr1			0.2062	ns
bZIP			0.3613	ns
HSE			0.2797	ns
NRF			0.7691	ns
Sp1/KLF			0.9010	ns
NFAT/AP1			0.8587	ns
ARE			0.7996	ns
E2F			0.6362	ns
Sox-Pou			0.0885	ns
SF1			0.2647	ns
RBP7			0.2647	ns
TCF/LEF			0.0885	ns
SBE			>0.9999	ns
Runx			>0.9999	ns
Fexf2			>0.9999	ns
NFAT			>0.9999	ns
LexA			>0.9999	ns
Gal4			>0.9999	ns

Table S20: Test of statistical significance of the values shown in Figure 4B. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
control				
EtOH 0.5%			0.8699	ns
Erinacine C 5µg/ml 0.5%			0.046	*
pCS-ETS1$_{DBD}$-TA4 4xETS-Fluc 1:1			0.181	ns
pCS-ETS1$_{DBD}$-TA4 4xETS-Fluc 1:5			0.02	*
pCS-ETS1$_{DBD}$-TA2 4xETS-Fluc 1:1			0.0504	ns
pCS-ETS1$_{DBD}$-TA2 4xETS-Fluc 1:5			0.0341	*
pCS-ETS1$_{DBD}$-KRAB 4xETS-Fluc 1:1			0.0006	***
pCS-ETS1$_{DBD}$-KRAB 4xETS-Fluc 1:5			0.0015	**

Table S21: Test of statistical significance of the values shown in Figure 5B. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
EtOH 0.5%				
2x Erinacine C 3µg/ml 0.5%			0.525	ns
2x Erinacine C 5µg/ml 0.5%			0.1672	ns
4x Erinacine C 3µg/ml 0.5%			0.023	*
4x Erinacine C 5µg/ml 0.5%			0.0376	*
6x Erinacine C 3µg/ml 0.5%			0.0003	***
6x Erinacine C 5µg/ml 0.5%			0.0008	***
8x Erinacine C 3µg/ml 0.5%			<0.0001	****
8x Erinacine C 5µg/ml 0.5%			0.0005	***

Table S22: Test of statistical significance of the values shown in Figure 5C. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
Control				
EtOH 0.5%				
1 µg/ml			0.6764	ns
2 µg/ml			0.5156	ns
3 µg/ml			0.1066	ns
4 µg/ml			0.0314	*
5 µg/ml			0.3462	ns
10 µg/ml			0.7835	ns
15 µg/ml			0.0054	**

Table S23: Test of statistical significance of the values shown in Figure 5D. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
Control				
EtOH 0.5%			0.9454	ns
3h			0.4686	ns
6h			0.3134	ns
10h			0.8791	ns
16h			0.7304	ns
24h			0.0018	**

Table S24: Test of statistical significance of the values shown in Figure 6B. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant $p > 0.05$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.0001$).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
Control *ngf* mRNA				
Control *ets1* mRNA				
EtOH 0.5% *ngf* mRNA	>0.9999 To control	ns		
EtOH 0.5% *ets1* mRNA			0.6378 To control	ns
3h *ngf* mRNA	>0.9999 To control	ns		
	>0.9999 To EtOH	ns		
3h *ets1* mRNA	>0.9999 To control	ns	0.8564 To EtOH	ns
6h *ngf* mRNA	>0.9999 To control	ns		
	>0.9999 To EtOH	ns		
6h *ets1* mRNA	<0.0001 To control	****	0.0113 To EtOH	*
10h *ngf* mRNA	>0.9999 To control	ns		
	>0.9999 To EtOH	ns		
10h *ets1* mRNA	>0.9999 To control	ns	0.0335 To EtOH	*
16h *ngf* mRNA			0.0982 To control	ns
			0.0982 To EtOH	ns
16h *ets1* mRNA	>0.9999 To control	ns	0.3902 To EtOH	ns
24h *ngf* mRNA			0.0229 To control	*
			0.0229 To EtOH	*
24h *ets1* mRNA	>0.9999 To control	ns	0.3657 To EtOH	ns
32h *ngf* mRNA			0.0036 To control	**
			0.0036 To EtOH	**
32h *ets1* mRNA	<0.0001 To control	****	0.0335 To EtOH	*
48h *ngf* mRNA	0.0060 To control	**		
	0.0068 To EtOH	**		
48h *ets1* mRNA	<0.0001 To control	****	0.0231 To EtOH	*

Table S25: Test of statistical significance of the values shown in Figure 6C. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
Control 24h				
pCS-ETS$_{DBD}$-TA4 24h	>0.9999	ns		
pCS-ETS$_{DBD}$-TA2 24h	>0.9999	ns		
Control 48h				
pCS-ETS$_{DBD}$-TA4 48h	>0.9999	ns		
pCS-ETS$_{DBD}$-TA2 48h	>0.9999	ns		

Table S26: Test of statistical significance of the values shown in Figure 7A. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
EtOH 0.5% *ngf* mRNA				
EtOH 0.5% *bdnf* mRNA				
Erinacine C *ngf* mRNA			<0.0001 To EtOH	****
Erinacine C *bdnf* mRNA			0.0383 To EtOH	*
Erinacine C + PD98059 *ngf* mRNA	0.8219 To Erinacine	ns	0.0027 To EtOH	**
Erinacine C + PD98059 *bdnf* mRNA	0.8074 To Erinacine	ns	0.0188 To EtOH	*
Erinacine C + U0126 *ngf* mRNA	0.6735 To Erinacine	ns	0.0080 To EtOH	**
Erinacine C + U0126 *bdnf* mRNA	0.4807 To Erinacine	ns	0.0099 To EtOH	**
Erinacine C + PD98059 + U0126 *ngf* mRNA	0.8149 To Erinacine	ns	0.0045 To EtOH	**
Erinacine C + PD98059 + U0126 *bdnf* mRNA	0.2885 To Erinacine	ns	0.5307 To EtOH	ns

Table S27: Test of statistical significance of the values shown in Figure 7B. Statistical significance was tested with either One-way ANOVA with Bonferroni (when normally distributed) or with One-way ANOVA Kruskal-Wallis (when not normally distributed), the p-values were shown (ns not significant p > 0.05; * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001).

p-values	Bonferroni	Significance	Kruskal-Wallis	Significance
EtOH *ngf* mRNA				
EtOH *bdnf* mRNA				
Vehicle *ngf* mRNA	0.0073 To EtOH	**		
Vehicle *bdnf* mRNA	0.049 To EtOH	*		
pCS-ETS$_{DBD}$-KRAB *ngf* mRNA	<0.0001 To EtOH	****		
	>0.9999 To Vehicle	ns		
pCS-ETS$_{DBD}$-KRAB *bdnf* mRNA	0.041 To EtOH	*		
	>0.9999 To Vehicle	ns		

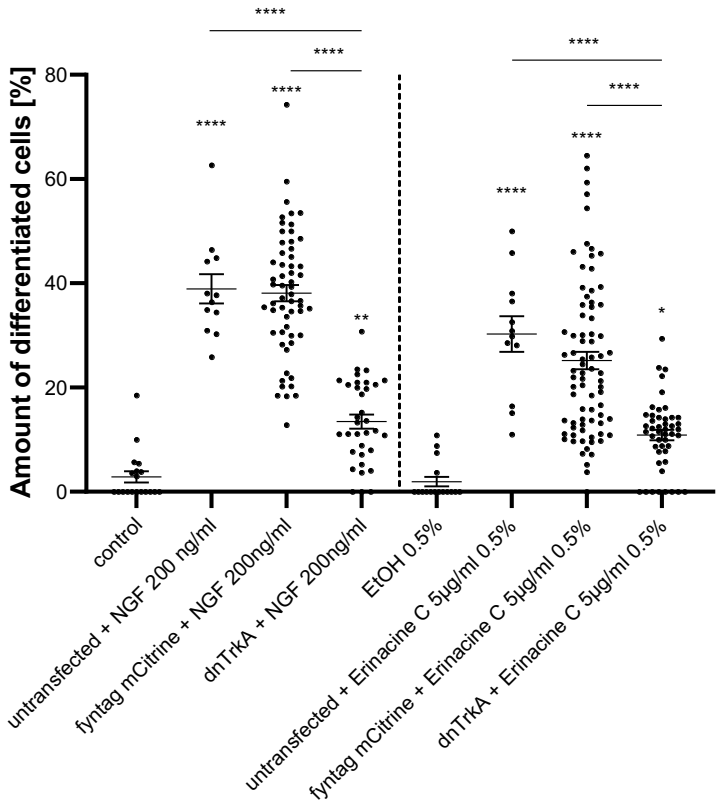

Figure S1: Scatter plot to Figure 1E. Points show individual values of the experiment.

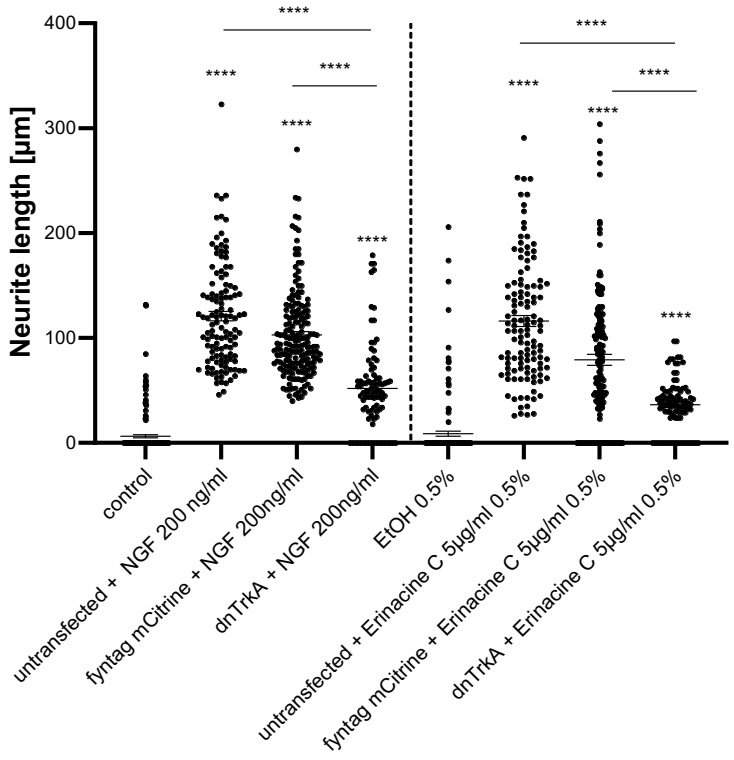

Figure S2: Scatter plot to Figure 1F. Points show individual values of the experiment.

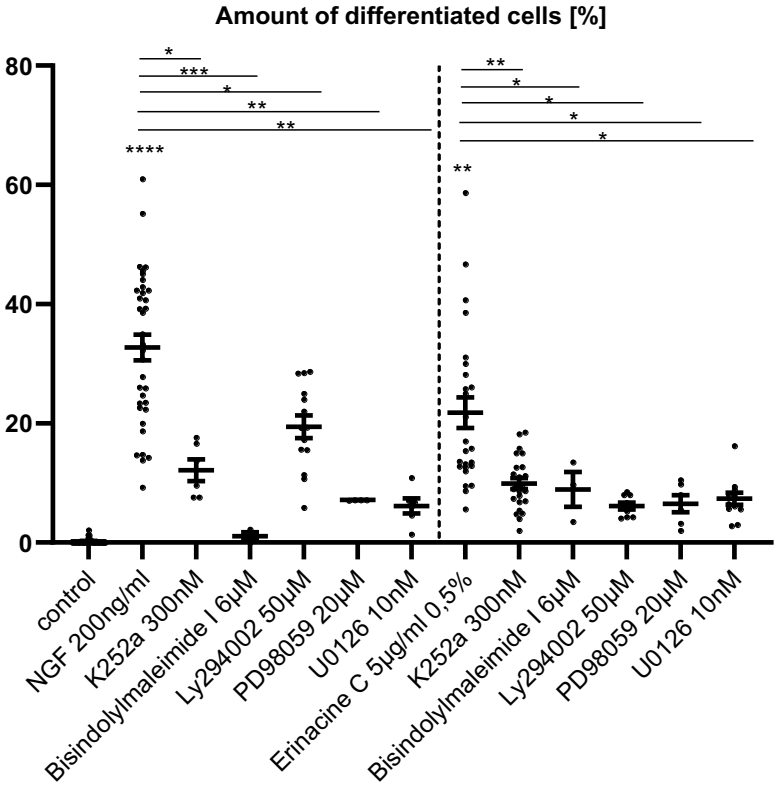

Figure S3: Scatter plot to Figure 2B. Points show individual values of the experiment.

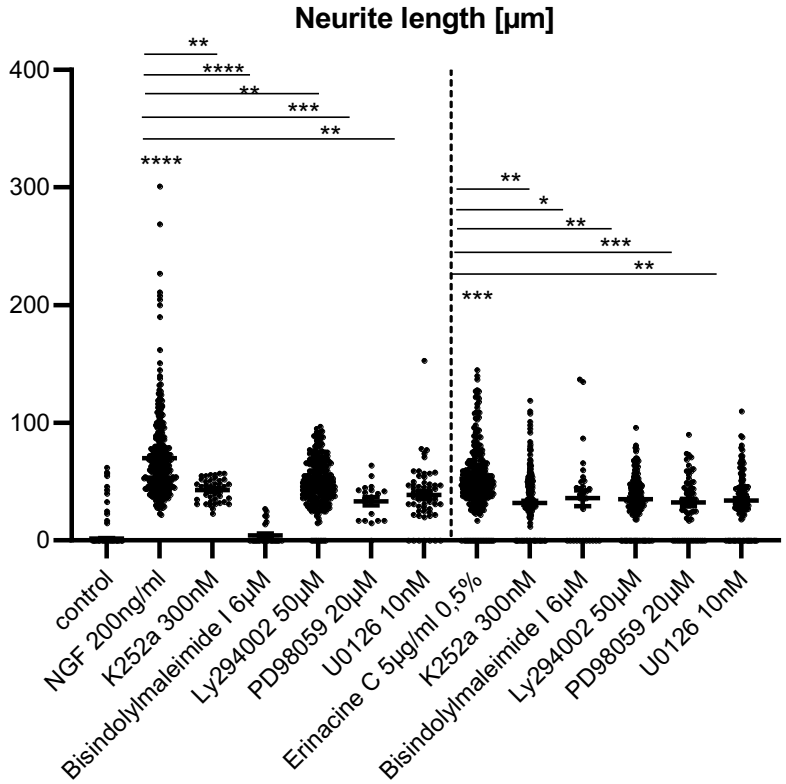

Figure S4: Scatter plot to Figure 2C. Points show individual values of the experiment.

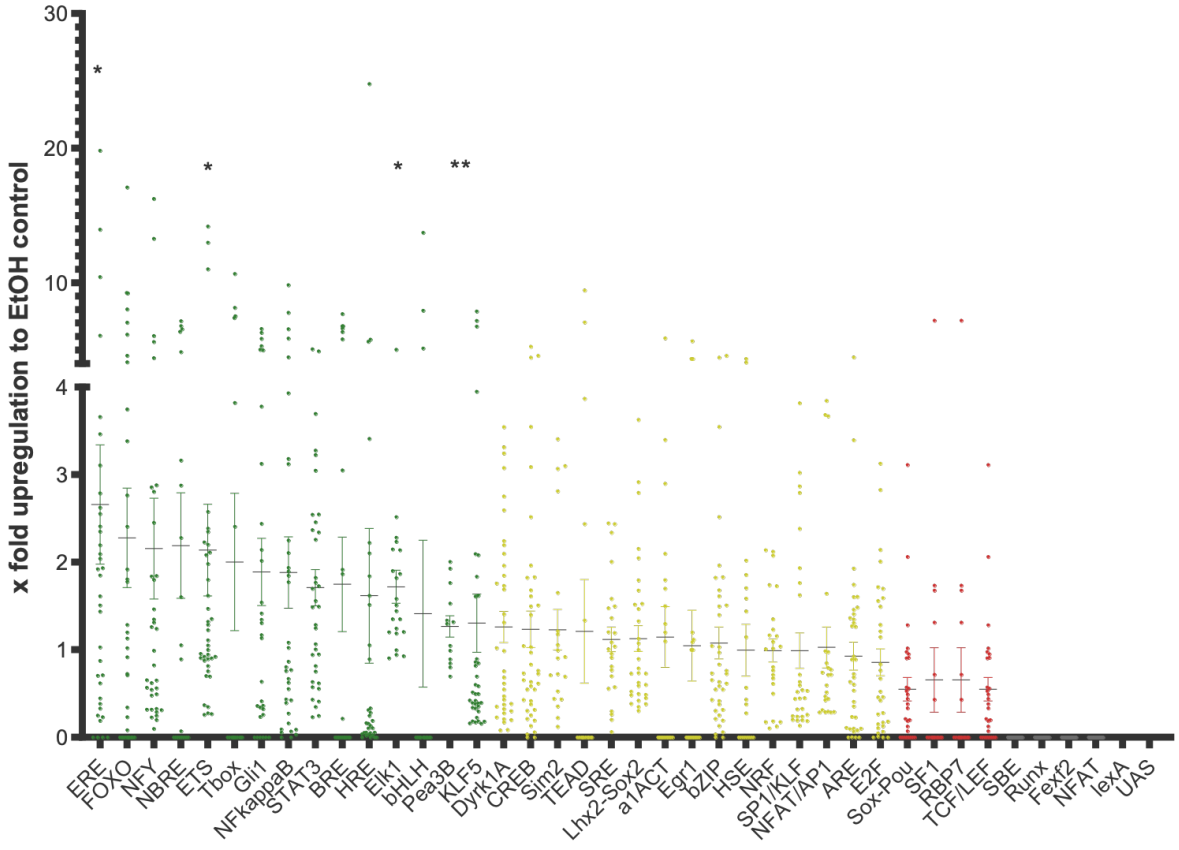

Figure S5: Scatter plot to Figure 3. Points show individual values of the experiment.

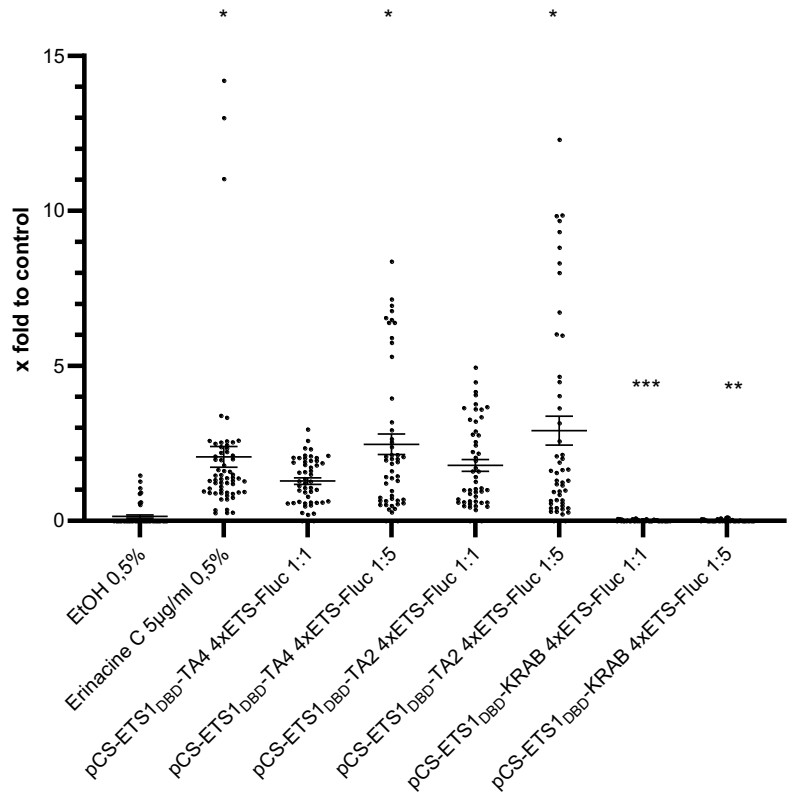

Figure S6: Scatter plot to Figure 4B. Points show individual values of the experiment.

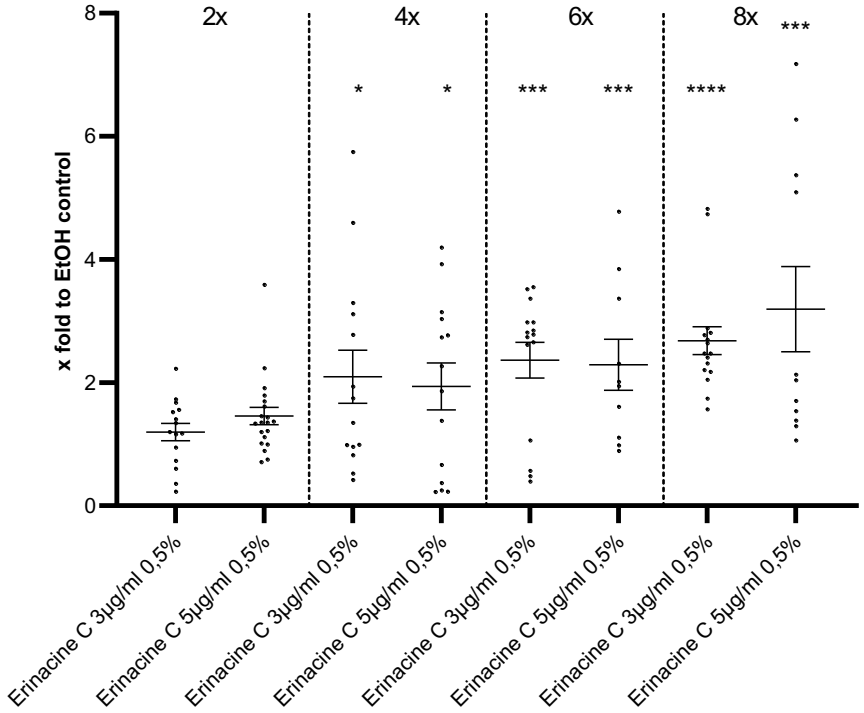

Figure S7: Scatter plot to Figure 5B. Points show individual values of the experiment.

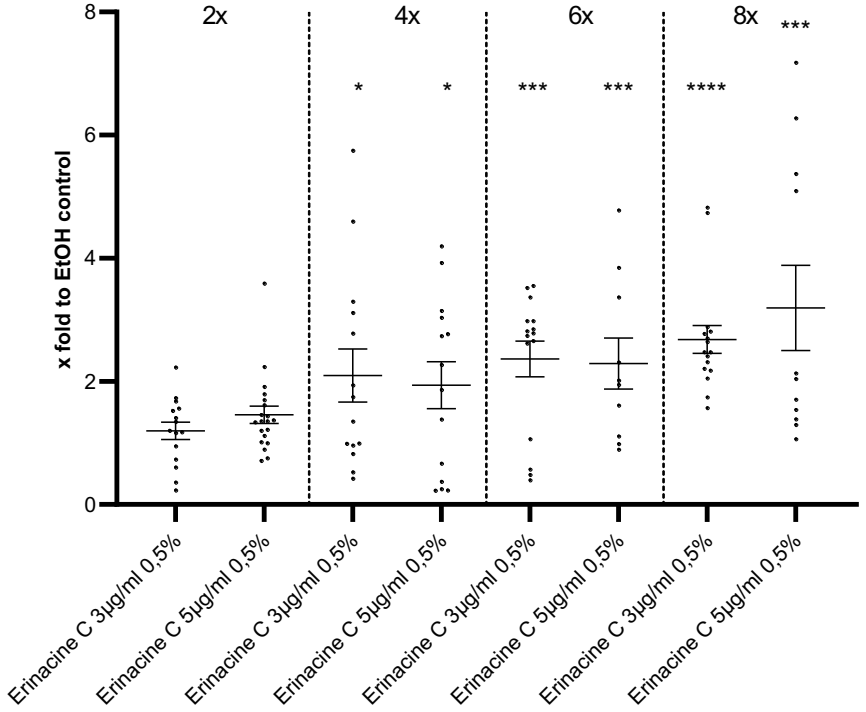

Figure S8: Scatter plot to Figure 5C. Points show individual values of the experiment.

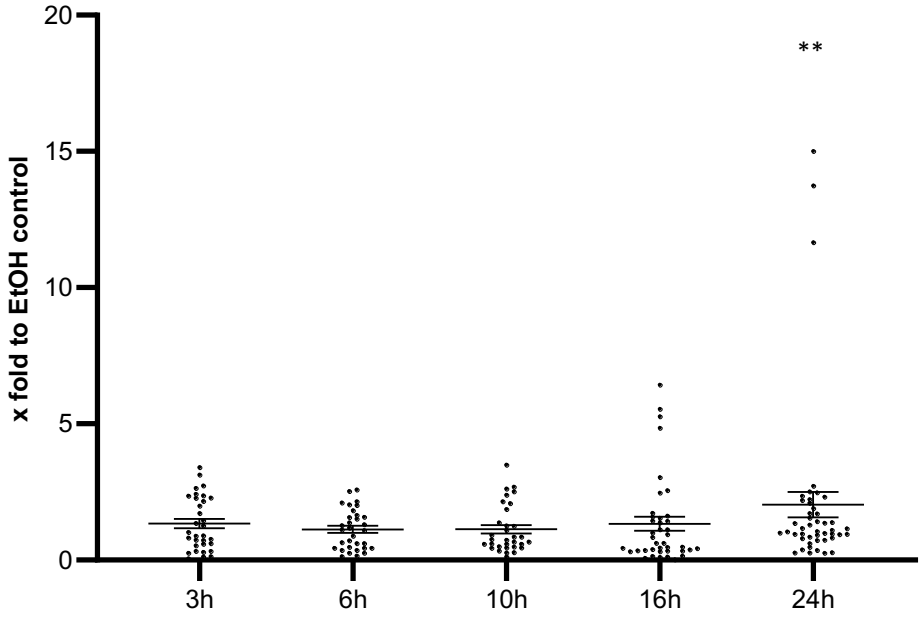

Figure S9: Scatter plot to Figure 5D. Points show individual values of the experiment.

Table S28: List of Firefly luciferase constructs containing 4 transcription factor DNA binding sites

DNA-binding site (below: sense oligo used for cloning)	Signaling pathway	Construct number
α1ACT, [1]	α1ACT signaling (C-terminus of CACNA1a)	#5460
GGTACCTCTAGAATTATAAGATGTCTGATATTATAAGATGCTCGAAATTATAAGATGTCTGATATTATAAGATGCTCGAGCCTGCAGG		
ARE, [2]	anti-oxidant electrophile responsive element	#5290
GGTACCTCTAGAGGAAATGACATTGCTAATGGTGACAAAGCAACTTTTCTGATGGAAATGACATTGCTAATGGTGACAAAGCAACTTTCTCGAAGGAAATGACATTGCTAATGGTGACAAAGCAACTTTCTCGAGCCTGCAGG (cloning resulted in 4x ARE bdg. sites)		
bHLH, E-box, [3]	bHLH transcription factors	#5297
GGTACCTCTAGAAAACAGCTGTTCTGATAAACAGCTGTCTCGAAAAACAGCTGTTCTGATAAACAGCTGTCTCGAGCCTGCAGG		
BRE, [4]	BMP signaling	#5347
GGTACCTCTAGACTGGCGCCTCTGATCTGGAGCCCTCGAACTGGCGCCTCTGATCTGGAGCCCTCGAGCCTGCAGG		
bZIP, [3]	basic leucine zipper transcription factors	#5298
GGTACCTCTAGAGATGAGTCATCCTCTGATGATGAGTCATCCCTCGAAGATGAGTCATCCTCTGATGATGAGTCATCCCTCGAGCCTGCAGG		
CREB, [5,6]	c-AMP signaling	#5273
GGTACCTCTAGACTGACGTCATCTGATCTGACGTCACTCGAACTGACGTCATCTGATCTGACGTCACTCGAGCCTGCAGG		
Dyrk1A, (Di Vona et al., 2015)	Dyrk1A kinase signaling	#5270
GGTACCTCTAGATCTCGCGAGATCTGATTCTCGCGAGACTCGAATCTCGCGAGATCTGATTCTCGCGAGACTCGAGCCTGCAGG		
E2F, [3]	E2F transcription factors	#5296
GGTACCTCTAGACTGGCGGGAATCTGATCTGGCGGGAACTCGAACTGGCGGGAATCTGATCTGGCGGGAACTCGAGCCTGCAGG		
Egr1 (NGFI-A), [8]	Egr-1 transcription factor	#5304
GGTACCTCTAGACTCCCCCACTCTGATCGCCCCCGCCTCGAACTCCCCCACTCTGATCGCCCCCGCCTCGAGCCTGCAGG		
Elk1, [9–11]	MAPK signaling	#5291
GGTACCTCTAGAGACCGGAAGTTCTGATAACCGGAAGTCTCGAAGACCGGAAGTTCTGATAACCGGAAGTCTCGAGCCTGCAGG		
ERE, [12]	estrogen signaling	#5306
GGTACCTCTAGAGGTCACAGTGACCTCTGATGGTCACAGTGACCCTCGAAGGTCACAGTGACCTCTGATGGTCACAGTGACCCTCGAGCCTGCAGG		
ETS, [3]	MAPK signaling	#5301
GGTACCTCTAGACACTTCCGGTTCTGATCACTTCCGGTCTCGAACACTTCCGGTTCTGATCACTTCCGGTCTCGAGCCTGCAGG		
Fezf2, [13]	Fez signaling	#5308
GGTACCTCTAGACAGCAACCTCTGATCAGCAACCCTCGAACAGCAACCTCTGATCAGCAACCCTCGAGCCTGCAGG		

FOXO, [3]	Forkhead box protein signaling	#5346
GGTACCTCTAGATCCTGTTTACCATCTGATTCCTGTTTACCACTCGAATCCTGTTTACCATCTGATTCCTGTTTACCACTCGAGCCTGCAGG		
Gal4, [14,15]	yeast Gal4 operon regulation	#5288
GGTACCTCTAGACGGAGTACTGTCCTCCGTCTGATCGGAGTACTGTCCTCCGCTCGAACGGAGTACTGTCCTCCGTCTGATCGGAGTACTGTCCTCCGCTCGAGCCTGCAGG		
Gli-1, [16,17]	Hedgehog signaling	#5266
GGTACCTCTAGAGACCACCCATCTGATGACCACCCACTCGAAGACCACCCATCTGATGACCACCCACTCGAGCCTGCAGG		
HRE, [18,19]	hypoxia induced signaling	#5277
GGTACCTCTAGATGTGTACGTGCTGTCTGATTGTGTACGTGCTGCTCGAATGTGTACGTGCTGTCTGATTGTGTACGTGCTGCTCGAGCCTGCAGG		
HSE, [20]	heat-shock induced signaling	#5281
GGTACCTCTAGAAGAACGTTCTAGAACTCTGATAGAACGTTCTAGAACCTCGAAAGAACGTTCTAGAACTCTGATAGAACGTTCTAGAACCTCGAGCCTGCAGG		
KLF5, [3]	Krüppel-like transcription factors	#5300
GGTACCTCTAGAAGGGTGTGGCTCTGATAGGGTGTGGCCTCGAAAGGGTGTGGCTCTGATAGGGTGTGGCCTCGAGCCTGCAGG		
LexA, [21]	bacterial lex operon regulation	#5342
GGTACCTCTAGACTGTACATCCATACAGTCTGATCTGTACATCCATACAGCTCGAACTGTACATCCATACAGTCTGATCTGTACATCCATACAGCTCGAGCCTGCAGG		
Lhx2-Sox2, [22,23]	Lhx-Sox transcription factors	#5275
GGTACCTCTAGACTAATTAAAGAACAAAGTCTGATCTAATTAAAGAACAAAGCTCGAACTAATTAAAGAACAAAGTCTGATCTAATTAAAGAACAAAGCTCGAGCCTGCAGG		
NBRE (NGFI-B), [24–26]	steroid and BMP signaling	#5278
GGTACCTCTAGAAAAAGGTCATCTGATAAAAGGTCACTCGAAAAAAGGTCATCTGATAAAAGGTCACTCGAGCCTGCAGG		
NFAT, [27]	Ca^{2+}-signaling	#5343
GGTACCTCTAGAGGATTTTCCATCTGATGGATTTTCCACTCGAAGGATTTTCCATCTGATGGATTTTCCACTCGAGCCTGCAGG		
NFAT/AP1, [28]	Ca^{2+}-signaling	#5305
GGTACCTCTAGATGGAAAATTTGACTCATAGTCTGATTGGAAAATTTGACTCATAGCTCGAATGGAAAATTTGACTCATAGTCTGATTGGAAAATTTGACTCATAGCTCGAGCCTGCAGG		
NFkappaB, [29]	Rel-domain transcription factors	#5264
GGTACCTCTAGAGGGAATTCCCTCTGATGGGAATTCCCCTCGAAGGGAATTCCCTCTGATGGGAATTCCCCTCGAGCCTGCAGG		
NFY, [3]	CCAAT transcription factors	#5292
GGTACCTCTAGAAGCCAATCGGTCTGATAGCCAATCGGCTCGAAAGCCAATCGGTCTGATAGCCAATCGGCTCGAGCCTGCAGG		
NRF, [3]	Reactive oxygen species (ROS) signaling	#5294
GGTACCTCTAGACTGCGCATGCGCTCTGATCTGCGCATGCGCCTCGAACTGCGCATGCGCTCTGATCTGCGCATGCGCCTCGAGCCTGCAGG		
Pea3b, [30]	FGF signaling	#5272

GGTACCTCTAGAGGAAATTCCTTTCCTCTGATGGAAATTCCTTTCCCTCGAAGGAAATTCCTTTCCTCTGATGGAAATTCCTTTCCCTCGAGCCTGCAGG		
RBP-J, [31,32]	Notch signaling	#5268
GGTACCTCTAGACGTGGGAATCTGATCGTGGGAACTCGAACGTGGGAATCTGATCGTGGGAACTCGAGCCTGCAGG		
Runx, JASPAR database	Runx transcription factors	#5307
GGTACCTCTAGACTGTGGTTTTCTGATCTGTGGTTTCTCGAACTGTGGTTTTCTGATCTGTGGTTTCTCGAGCCTGCAGG		
SBE, [32,33]	TGFβ signaling	#5276
GGTACCTCTAGAAGACAGACATCTGATAGCCAGACACTCGAAAGACAGACATCTGATAGCCAGACACTCGAGCCTGCAGG		
SF-1, [24]	steroid signaling	#5279
GGTACCTCTAGATCAAGGTCATCTGATTCAAGGTCACTCGAATCAAGGTCATCTGATTCAAGGTCACTCGAGCCTGCAGG		
Sim2, [34]	Sim transcription factors	#5344
GGTACCTCTAGATTGTTATGCAAATCTGATTTGTTATGCAAACTCGAATTGTTATGCAAATCTGATTTGTTATGCAAACTCGAGCCTGCAGG		
Sox/Pou, [35]	Pou-domain transcription factors	#5299
GGTACCTCTAGACATTGACATGCTAATTCTGATCATTGACATGCTAATCTCGAACATTGACATGCTAATTCTGATCATTGACATGCTAATCTCGAGCCTGCAGG		
SP1/KLF, [3]	SP/KLF transcription factors	#5293
GGTACCTCTAGAGGCCCCGCCCCCTCTGATGGCCCCGCCCCCCTCGAAGGCCCCGCCCCCTCTGATGGCCCCGCCCCCCTCGAGCCTGCAGG		
SRE, [36]	SRF signaling	#5280
GGTACCTCTAGACCATAAAAGGTCTGATCCATATAAGGCTCGAACCATAAAAGGTCTGATCCATATAAGGCTCGAGCCTGCAGG		
STAT3, [37–39]	STAT3-signaling	#5289
GGTACCTCTAGAATTTCCCGGAAATTCTGATATTTCCCGGAAATCTCGAAATTTCCCGGAAATTCTGATATTTCCCGGAAATCTCGAGCCTGCAGG		
T-box, [40]	T-box transcription factors	#5345
GGTACCTCTAGATCACACCTTCTGATTCACACCTCTCGAATCACACCTTCTGATTCACACCTCTCGAGCCTGCAGG		
TCF/LEF, [41,42]	Wnt-signaling	#5274
GGTACCTCTAGAAGATCAAAGGGTCTGATAGATCAAAGGGCTCGAAAGATCAAAGGGTCTGATAGATCAAAGGGCTCGAGCCTGCAGG		
TEAD, [43,44]	YAP/TAZ-signaling	#5392
GGTACCTCTAGAACATTCCACTCTGATACATTCCACCTCGAAACATTCCACTCTGATACATTCCACCTCGAGCCTGCAGG		

Table S28: List of Firefly luciferase constructs containing 4 transcription factor DNA binding sites. The abbreviation of the respective binding sites are marked in bold letters. References indicate publications from which DNA consensus sequences for transcription factor binding sites were retrieved. The respective sense oligonucleotides used for cloning are shown below with transcription factor binding sites marked in red and the flanking restriction enzyme sites for *Kpn*I at the 5'-end and *Sbf*I at the 3'-end marked in green. Vector numbers relate to plasmid stock numbers in the lab internal plasmid database.

Table S29: List of Firefly luciferase constructs containing 2-8 transcription factor DNA binding sites

DNA-binding site (below: sense oligo used for cloning)	**Cloning procedure**	**Construct number**
2x ETS bindings sites	Oligos were annealed in cloned into *Kpn*I and *Pst*I restriction sites of pBTolmin-E1b-Firefly luciferase SV40pA	#5462
GGTACCTCTAGACACTTCCGGTTCTGATCACTTCCGGTCTCGAGCCTGCAGG		
6x ETS bindings sites	Oligos were annealed and cloned downstream of 4xETS-sites (vector #5301 see TableS1 above) into *Xho*I and *Pst*I restriction sites in front of the E1b basal promoter, recombination in bacteria resulted in 6x ETS sites	#5478
GTCGACCACTTCCGGTTCTGATCACTTCCGGTCTCGAACACTTCCGGTTCTGATCACTTCCGGTCCTGCAGG		
8x ETS bindings sites	Oligos were annealed and cloned downstream of 4xETS-sites (vector #5301 see TableS1 above) into *Xho*I and *Pst*I restriction sites in front of the E1b basal promoter,	#5477
GTCGACCACTTCCGGTTCTGATCACTTCCGGTCTCGAACACTTCCGGTTCTGATCACTTCCGGTCCTGCAGG		

Table S29: List of Firefly luciferase constructs containing 2-8 ETS transcription factor DNA binding sites. The respective sense oligonucleotides used for cloning are shown below with transcription factor binding sites marked in red and the flanking restriction enzyme sites for *Kpn*I at the 5'-end and *Sbf*I at the 3'-end marked in green. Vector numbers relate to plasmid stock numbers in the lab internal plasmid database.

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