Supplementary Information

Discovering chemical modifiers of oncogene-regulated hematopoietic differentiation

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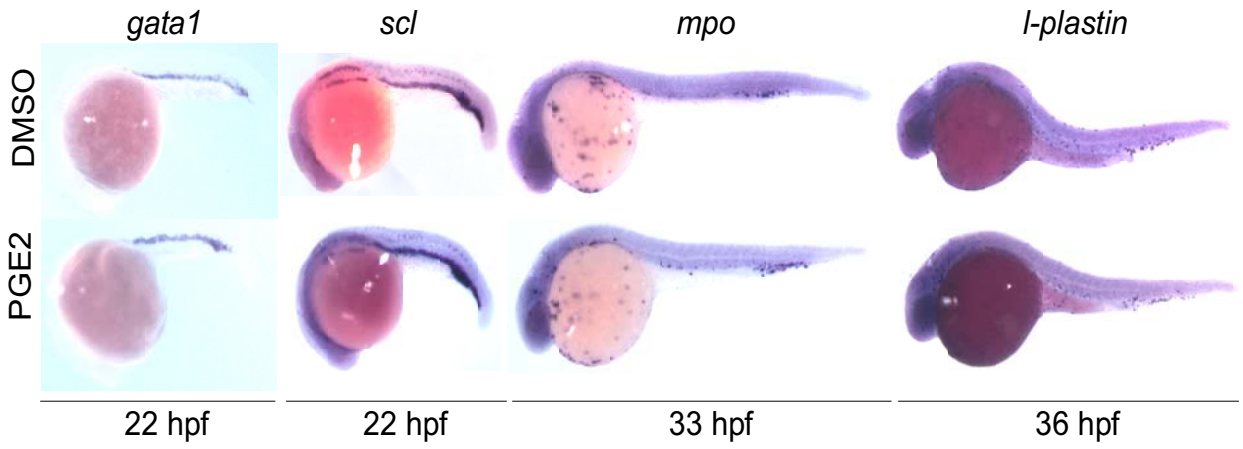
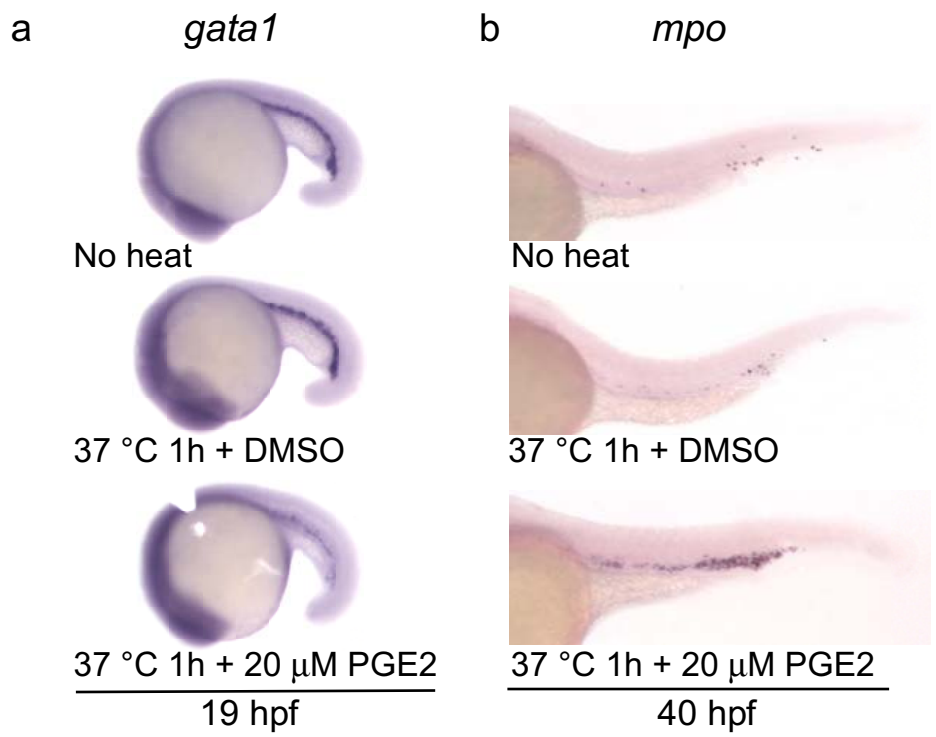
Supplementary Figure 1



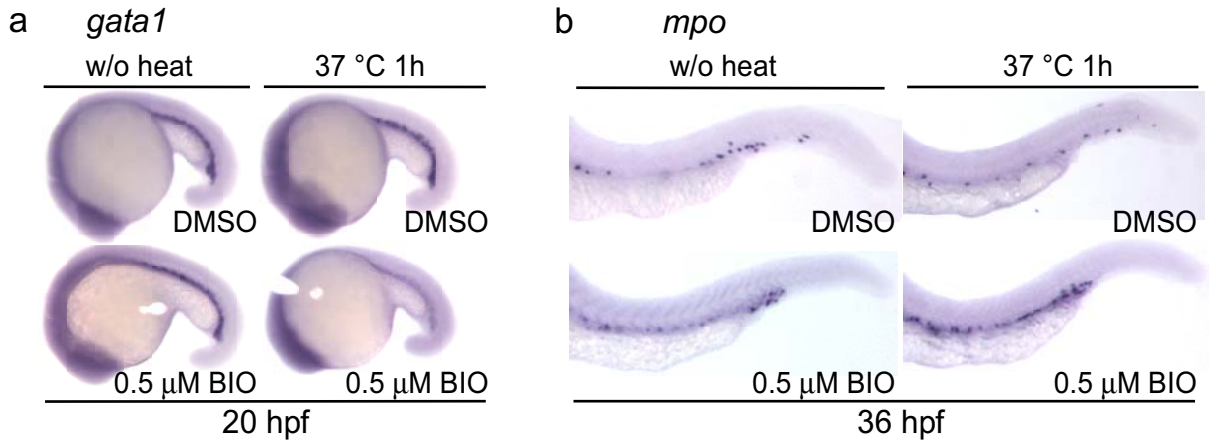
Supplementary Figure 1. PGE2 does not affect the expression of hematopoietic genes in early zebrafish embryos. DMSO or PGE2 (20μM) was added to the embryo water at 14 hpf and the embryos were harvested for *in situ* hybridization of *gata1*, *scl*, *mpo*, and *l-plastin* at the designated stages as indicated.

Supplementary Figure 2



Supplementary Figure 2. Prostaglandin E2 enhances the hematopoietic phenotype of AE in Tg(hsp:AML1-ETO) embryos. (**a**-**b**) *In situ* hybridization of *gata1* (**a**) and *mpo* (**b**). Tg(*hsp:AML1-ETO*) and wild-type embryos were incubated at 37 °C for one hour to induce low-level AE expression in the presence of DMSO or PGE2 and were then returned to 25-28.5 °C until the designated stages as indicated.

Supplementary Figure 3



Supplementary Figure 3. Activation of the β-catenin pathway augments the AE phenotype. (**a**-**b**) *In situ* hybridization of *gata1* (**a**) and *mpo* (**b**). Addition of 0.5 μM BIO, a GSK3 inhibitor, causes the downregulation of *gata1* and upregulation of *mpo* in the presence of low levels of AE expression (37 °C 1h), but it does not affect the expression of these genes in the absence of AE (w/o heat). Tg(*hsp:AML1-ETO*) embryos were incubated at 37 °C for 1 hour at 16-somite stage to induce AE expression (w/ heat). Under this heat shock condition, induced AE expression is not high enough to cause any visible phenotype (37 °C 1h, DMSO-treated).

Supplementary Table 1. Compounds identified in the AML1-ETO suppressor screen.

Compound	Analogues of rotenone	Follow-up	AML1-ETO expressed after heat	Known biological effects/uses
nimesulide		√	√	antiinflammatory
dicumarol		√	√	anticoagulant
bithionol		√	X	anthelmintic, antiseptic
dichlorophene		√	X	anthelmintic
mundoserone	√	√	X	
rotenone	√	√	X	acaricide, ectoparasiticide, antineoplastic, mitochondrial poison
b-dihydrorotenone	√			
deguelin (-)	√			antineoplastic, antiviral
α-toxicarol	√			
cycloheximide				protein synthesis inhibitor
valproate sodium				anticonvulsant
totarol-19-carboxylic acid (**18**)				
2,4-dinitrophenol (**19**)				uncouples oxidative phosphorylation
3-acetoxypregn-16-en-12,20-dione (**20**)				
pseudobaptigenin (**21**)				