Supplemental Information

dFezf/Earmuff Maintains the Restricted

Developmental Potential of Intermediate

Neural Progenitors in Drosophila

Mo Weng, Krista L. Golden, and Cheng-Yu Lee



Figure S1. erm mutant brains show a dramatic increase in neuroblasts

(A) A type I neuroblast generates a daughter type I neuroblast and a GMC that produces two neurons. A type II neuroblast generates a daughter type II neuroblast and an immature INP that becomes an INP undergoing limited rounds of asymmetric divisions.

(B and C) *erm* mutant larvae showed dramatically enlarged brain lobes containing supernumerary neuroblasts compared to similarly staged wild type control larvae.

(D) *erm* mutant larval brains contained more than 10-fold increase in ectopic neuroblasts

(Dpn⁺Pros⁻).

wild type					<i>erm</i> ¹			
A	lse	GFP	Pros	Ase/GFP/Pro	s Ase	GFP	Pros	Ase/GFP/Pro
Α 0μm	\sum	2 AC	A?		D 0µm	D'		D
Β -1.5μι	**** ****	B'	B"	B"	Ε *** -6μm	E'	F.	E
С -6µm	Υ.	C C	C"	C	F -12µm	F	F"	F"
Erm>GFP	G · · ·	opn G'	GFP	Pros G"	Dpn/GFP/P	ros		
н	Central Brain			1				
	9D2-Gal4		3 typ	ype i neuroblast lineages				
	903-	9D3-Gal4 a lew neurons & Type I			neuropiast			
	9D4Gal4 Very lew field of							
	905-	9D5-Gal4 Ho expression			1			
	900-	Gald few type I pourobl			lacto			
	000	DQ Cal4 few pourons			10515			
	909-	D10 Cold						
	9010-	-Gal4		INPS				
l	SDTT-Gal4 INPS							



Figure S2. *erm* prevents INPs from reverting into type II neuroblasts

(A-F) At 48 hrs after clone induction, *erm* mutant type II neuroblast clones (yellow circles) contained fewer INPs (Ase⁺Pros⁻), GMCs (Ase⁺Pros⁺) and neurons (Ase⁻Pros⁺; white asterisks) compared to similarly staged wild type neuroblast clones.

(G) The expression pattern of the R9D series of Gal4 lines.

(H) The expression of *Erm-Gal4* in *brain tumor* (*brat*) mutant brains was undetected in ectopic type II neuroblasts and immature INPs despite a dramatic increase in their population.

(I-L) Over-expression of *erm*, *Fezf1* and *Fezf2* in INPs efficiently restored the Erm function and rescued the ectopic neuroblast phenotype in *erm* mutant brains.



Figure S3. Type II neuroblast lineages in wild-type and mutant larval brains