

Fig S1. Immunestaining of Notch pathway components showed no obvious change in ovarian GSC niche of *dally* mutant.

Early pupal ovaries are shown. (A, C and E) Genotype: *dally^{gem}/+*. (B, D and F) Vas-positive germ cells decreased in *dally* mutant (*dally^{gem}*) ovary. (A and B) Delta, one of the Notch pathway ligands, is expressed in the terminal filament. (C and D) The pattern of Notch ECD (antibody against EGF-like repeats #12-20 in the extracellular domain of Notch). (E and F) The pattern of Notch ICD (antibody against Notch intracellular domain, a.a. 1791-2504). Bar, 10µm.

hGPC2 DALLY hGPC3 hGPC5	MSALRPLLLLLLPLCPGPGPGPGSMSALRPLLLLLLPLCPGPGPGS	24
	*:: * .	
hGPC2 DALLY hGPC3 hGPC5	EAKVTRSCAETRQVLGARG-YSLNLIPPALISGEHLRVCP-QEYTCCSSETEQRLI AKDAVGGSTHQCDAVKSYFESIDIKSSGTYSEKGAICGGNCCNNATELELR -QPPPPPDATCHQVRSFFQ-RLQPGLKWVPETPVPGSDLQVCLPKGPTCCSRKMEEKYQ RSEGVQTCEEVRKLFQWRLLGAVRGLPDSPRAGPDLQVCISKKPTCCTRKMEERYQ * .:. : *	78 108 82 78
hGPC2 DALLY hGPC3 hGPC5	RETEATFRGLVEDSGSFLVHTLAARHRKFDEFFLEMLSVAQHSLTQLFSHSYGRLYAQHA DKAAGMFEQLLHHHTSSLRGVLETNAKQFQSHVLELAQISENMTHSLFSKVYTRMVPSSR LTARLNMEQLLQSASMELKFLIIQNAAVFQEAFEIVVRHAKNYTNAMFKNNYPSLTPQAF IAARQDMQQFLQTSSSTLKFLISRNAAAFQETLETLIKQAENYTSILFCSTYRNMALEAA : :. :: * : : :: :* * :	168 142
hGPC2 DALLY hGPC3 hGPC5	LIFNGLFSRLRDFYGESG-EGLDDTLADFWAQLLERVFPLLHPQYSF MMIHQLYTEIMNHLIYTSNYTNSNGQLGRRGIGSVQSNLEEAVRHFFVQLFPVAYHQMVH EFVGEFFTDVSLYILGSDINVDDMVNELFDSLFPVIYTQLMN ASVQEFFTDVGLYLFGADVNPEEFVNRFFDSLFPLVYNHLIN . ::: : . : : :: :**: : :	184 228 184 180
hGPC2 DALLY hGPC3 hGPC5	PPDYLLCLSRLASSTDGSLQPFGDSPRRLRLQITRTLVAARAFVQGLETGR LSKNNLGDLHEDYVNCLQHNFDEMHPFGDIPQQVQSNLGKSVHMSNVFMNALLQAA PGLPDSALDINECLRGARRDLKVFGNFPKLIMTQVSKSLQVTRIFLQALNLGI PGVTDSSLEYSECIRMARRDVSPFGNIPQRVMGQMGRSLLPSRTFLQALNLGI : *: .: **: *: : :: :: :: :: :: :: :: *:: *	
hGPC2 DALLY hGPC3 hGPC5	NVVSEALKVPVSEGCSQALMRLIGCPLCRGVPSLMPCQGFCLNVVRGCLSSR EVLSEADALYGEQLTDTCKLHLLKMHYCPNCNGHHSSSRSETKLCYGYCKNVMRGCSAEY EVINTTDHLKFSKDCGRMLTRMWYCSYCQGLMMVKPCGGYCNVVMQGCMAGV EVINTTDYLHFSKECSRALLKMQYCPHCQGLALTKPCMGYCLNVMRGCLAHM :*:.::::::::::::::::::::::::::::::::::	344 289
hGPC2 DALLY hGPC3 hGPC5	GLEPEWGNYLDGLLILADKL-QGPFSFELTAESIGVKISEGLMYLQENSAKVSAQVFQ AGLLDSFWSGVVDSLNNLVTTHILSDTGIINVIKHLQTYFSEAIMAAMHNGPELEKKVKK VE-IDKYWREYILSLEELVNGM-YRIYDMENVLLGLFSTIHDSIQYVQKNAGKLTTTIGK AE-LNPHWHAYIRSLEELSDAM-HGTYDIGHVLLNFHLLVNDAVLQAHLNGQKLLEQVNR	344 404 347 343
hGPC2 DALLY hGPC3 hGPC5	ECGPPDPVPARNRRAPPPREEAGRLWSMVTEEERPTTAAGTNLHRLVWELRERLARMR TCGTPSLTPYSSGEPDARPPPHKNNVKWATDPDPGMVLFLSTIDKSK LCAHSQQRQYRSAYYPEDLFIDKKVLKVAHVEHEETLSSRRRELIQKLKSFI ICGRPVRTPTQSPRCSFDQSKEKHGMKTTTRNSEETLANRRKEFINSLRLYR *	402 451 399 395
hGPC2	GFWARLSLTVCGDSRMAADASLEAAPCWTGAGR-GRYLPPVVGGSPAEQVNNPELKVDAS	461
DALLY hGPC3 hGPC5	EFYTTIVDNFCDEQQHSRDDHSCWSGDRF-GDYTQLLINPGTDSQRYNPEVPFNAK SFYSALPGYICSHSPVAENDTLCWNGQELVERYSQKAARNGMKNQFNLHELKMKG-	
hGPC2 DALLY hGPC3 hGPC5	GPDVPTRRRRLQLRAATARMKTAALGHDLDGQDADED AQTGKLNELVDKLFKIRKSIGAAAPSNSIQATHDIQNDMGEGSGGGEGQIGDDEEEY -PEPVVSQIIDKLKHINQLLRTMSMPKGRVLDKNLDEEGFESGDCGDDEDEC -IDPVINQIIDKLKHVVQLLQGRSPKPDKWELLQLGSGGGMVEQVSGDCDDE-DG- . :* : :::::	563 505
hGPC2 DALLY hGPC3 hGPC5	ASGSGGGQQYADDWMAGAVAPPARPPRPPYPPRRDGSGGKGGGGSARYNCGRSR GGAHGSGDGSGDGPHTPIEESEGTTTNEVESRDSGKT IGGSGDGMIKVKNQLRFLAELAYDLDVDDAPGNSQQATPKDNEISTFHNIG CGGSGSGEVKRTLKITDWMPDDMNFSDVKQIHQTDTGSTLDTTG	
	W296R	
hGPC2 DALLY	SGGASIGFHTQTILILSLSALALLGPR 579 SGSNPL-EGTATWMLLTLVTMLFSSCS 626 G556R	
hGPC3	NVHSPL-KLL-TSMAISVVCFFFLVH 580 (Simpson-Golabi-	
hGPC5	AGCAVAT-ESMTFTLISVVMLLPGIW 572 (Composition Conduction Conductin Conduction Conductin	
	Benniel Syndrome	-)

Fig S2. Predicted amino acid sequence of Dally aligned with human GPCs.

"*" indicates identical residues; ":", at least 50% identical; ".", at least 50% similar. Rectangles mark the residues associated with SGBS and tested in this report.

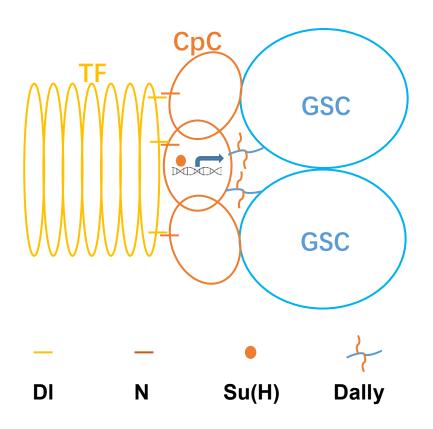


Fig S3. Schematic model of Notch signaling and Dally expression in the ovarian stem cell niche.

TF, terminal filament; CpC, cap cell; GSC, germline stem cell.