

Refined criteria for identifying stage 4-8 *Drosophila* egg chambers

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<https://bilderlab.berkeley.edu/follicle-staging/>

stage	4	5	6A
morphology^{1,2}	nurse cell nuclei contain similar DNA amount and appear polytene (five blob-phenotype)	nurse cell nuclei no longer polytene (five blob-phenotype); posterior nurse cells have higher ploidy	increased follicle aspect ratio; equal nurse cell ploidy
duration³ (h)	6	5	1.5*
duration⁴ (h)	9.16	2.61	4.225*
representative confocal image			
number of cells	184 ± 34	413 ± 50	550 ± 44
aspect ratio	1.17 ± 0.06	1.34 ± 0.06	1.42 ± 0.12
volume (μm ³)	64,252 ± 1,3183	107,630 ± 2,1727	131,636 ± 32,104
nurse cell nuclear diameter (μm)	N/A (polytene)	12.95 ± 1.22	14.28 ± 1.95
approx. range of follicle cell number	125-350	350-500	500-650
approx. range of nurse cell nuclear diameter (μm)	N/A (polytene)	11-14	14-15
stage	6B	7	8
morphology^{1,2}	more follicle cells and bigger nurse cell nuclei; follicle cells cease mitosis at the end of 6B	increased follicle aspect ratio; no mitotic follicle cells; higher nurse cell ploidy at posterior; no oocyte yolk visible	yolk in oocyte visible; anterior squamous cell morphogenesis not yet initiated
duration³ (h)	1.5*	6	6
duration⁴ (h)	4.225*	8.69	5.21
representative confocal image			
number of cells	751 ± 66	887 ± 33	862 ± 28
aspect ratio	1.54 ± 0.12	1.82 ± 0.09	1.91 ± 0.07
volume (μm ³)	219,000 ± 8,0991	334062 ± 49880	552705 ± 91295
nurse cell nuclear diameter (μm)	15.59 ± 2.61	19.86 ± 3.05	23.64 ± 1.66
approx. range of follicle cell number	650-850	850-900	850-900
approx. range of nurse cell nuclear diameter (μm)	15-17	17-21†	21-31†

* doubling time-based estimate⁵ that 6A and 6B encompass half of stage 6 duration respectively

† from stage 7, nurse cell nuclear diameter is higher at posterior than anterior⁶

1.Spradling (1993). 2.Jia et. al. (2016). 3. Lin&Spradling (1993). 4. David&Merle (1968). 5. Margolis&Spradling (1995). 6. Dai et. al. (2017)