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Title:	D Detecting proliferation of adult hemocytes in Drosophila by BrdU incorporation and PH3 expression in response to bacterial infection [version 2; peer review: 3 approved]
Authors:	Mandal, L. (/jspui/browse?type=author&value=Mandal%2C+L.) Ghosh, Saikat (/jspui/browse?type=author&value=Ghosh%2C+Saikat) Mandal, S. (/jspui/browse?type=author&value=Mandal%2C+S.)
Keywords:	Adult Drosophila Hematopoiesis Proliferation Macrophage
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Abstract:	Drosophila and mammalian hematopoiesis share several similarities that range from primitive and definitive phases of hematopoiesis to the battery of transcription factors and signaling molecules that execute this process. The similarities in blood cell development across these divergent taxa along with the rich genetic tools available in fruitfly makes it a popular invertebrate model to study blood cell development both during normal and aberrant scenarios. The larval system is the most extensively studied till date. Several studies have shown that these hemocytes just like mammalian counterpart proliferate and get routinely regenerated upon infection. However, employing the same protocol it was concluded that blood cell proliferation although abundant in larval stages is absent in adult fruitfly. The current protocol describes the strategies that can be employed to document the hemocyte proliferation in adulthood. The fact that a subset of blood cells tucked away in the hematopoietic hub are not locked in senescence, rather they still harbour the proliferative capacity to tide over challenges was successfully demonstrated by this protocol. Although we have adopted bacterial infection as a bait to evoke this proliferative capacity of the hemocytes, we envision that it can also efficiently characterize the proliferative responses of hemocytes in cancerous conditions like leukemia and solid tumors as well as scenarios of environmental and metabolic stresses during adulthood.
URI:	<a href="https://wellcomeopenresearch.org/articles/3-47">https://wellcomeopenresearch.org/articles/3-47</a> ( <a href="https://wellcomeopenresearch.org/articles/3-47">https://wellcomeopenresearch.org/articles/3-47</a> ) <a href="http://hdl.handle.net/123456789/2214">http://hdl.handle.net/123456789/2214</a> ( <a href="http://hdl.handle.net/123456789/2214">http://hdl.handle.net/123456789/2214</a> )
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