Extracellular Adenosine Mediates a Systemic Metabolic Switch during Immune Response

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We use parasitoid wasp infection of Drosophila larvae to study regulation of energy metabolism during immune response. We demonstrate that activated immune cells increase glycolysis and glucose/trehalose consumption and that they release adenosine as a mediator of systemic metabolic switch which is required for energy/nutrition to flow towards immune response. Our results experimentally demonstrate a trade-off between development and immune response.