

Profile Jules A. Hoffmann



Place of birth: Echternach, Luxembourg (1941)

Scientific training (places): Strasbourg University, Marburg University

Current areas of research: Immune Response and Development in Insects

Present affiliation: Institut de Biologie Moléculaire et Cellulaire, Université Louis Pasteur de Strasbourg

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Brief CV -Jules A. Hoffmann

J. Hoffmann was born in Luxembourg, where he received his primary and secondary education until he moved to Strasbourg University to study Zoology, General Biology and Chemistry, where he received his Ph.D. in Natural Science (1963) under the supervision of Profs. P. Joly and A. Porte. After a postdoctoral year (1973-1974) at Marburg University where he worked with Profs. P. Karlson and J. Koolman, J. Hoffmann returned to Strasbourg. In 1978, upon retirement of Prof. P. Joly J.Hoffmann became director of the Laboratoire de Biologie Générale de l'Université

Louis Pasteur. In 1994, Dr. Hoffmann was appointed director of the Institute of Molecular and Cellular Biology, Université Louis Pasteur de Strasbourg of the French National Research Agency CNRS. This institute, to which J. Hoffmann and his group moved from their previous location, the Institute of Zoology and General Biology, is located on the central campus of the University of Strasbourg (Université Louis Pasteur). Among the many prizes Hoffmann received, is the "Robert Koch Prize in Immunology". He has served on numerous French and International Committees, and is a Member of several Academies. He was elected in 2007 President of the French Academy of Sciences, and now works part-time in Paris. He is also a member of the Board of Administration of the French Research Agency CNRS.

Main Line of Research -Jules A. Hoffmann

Dr. Hoffmann started his studies working on the origins and roles of blood cells in the grasshopper *Locusta migratoria* under the supervision of Profs. P. Joly and A. Porte at the Strasbourg University. After his postdoc he started biochemical studies on insect hormones, particularly on the steroid hormone ecdysone. As Director of the laboratory, the interest of his group gradually moved to insect immunity. Since that period, the studies of J. Hoffmann and his numerous co-workers, focused primarily on the molecular and cellular aspects of the innate immune response of *Drosophila*, with a recent extension to the malaria vector insect *Anopheles*. Hoffmann and colleagues are in particular credited for having provided the first evidence that Toll receptors mediate and immune defense (1996).

Publications - Last 3 years -Jules A. Hoffmann

1. Fz2 and cdc42 mediate melanization and actin polymerization but are dispensable for *Plasmodium* killing in the mosquito midgut. Shiao SH, Whitten MM, Zachary D, Hoffmann JA, Levashina EA. *PLoS Pathog.* 2006 Dec;2(12):e133.
2. Dual Detection of Fungal Infections in *Drosophila* via Recognition of Glucans and Sensing of Virulence Factors. Gottar M, Gobert V, Matskevich AA, Reichhart JM, Wang C, Butt TM, Belvin M, Hoffmann JA, Ferrandon D. *Cell.* 2006 Dec 29;127(7):1425-37.
3. Boosting NF-kappaB-dependent basal immunity of *Anopheles gambiae* aborts development of *Plasmodium berghei*. Frolet C, Thoma M, Blandin S, Hoffmann JA, Levashina EA. *Immunity.* 2006 Oct;25(4):677-85.

4. Essential function in vivo for Dicer-2 in host defense against RNA viruses in drosophila. Galiana-Arnoux D, Dostert C, Schneemann A, Hoffmann JA, Imler JL. *Nat Immunol.* 2006 Jun;7(6):590-7.
5. Downregulation of the Drosophila immune response by peptidoglycan-recognition proteins SC1 and SC2. Bischoff V, Vignal C, Duvic B, Boneca IG, Hoffmann JA, Royet J. *PLoS Pathog.* 2006 Feb;2(2):e14.
6. Prophenoloxidase activation is not required for survival to microbial infections in Drosophila. Leclerc V, Pelte N, El Chamy L, Martinelli C, Ligoxygakis P, Hoffmann JA, Reichhart JM. *EMBO Rep.* 2006 Feb;7(2):231-5.
7. Eater, a transmembrane protein mediating phagocytosis of bacterial pathogens in Drosophila. Kocks C, Cho JH, Nehme N, Ulvila J, Pearson AM, Meister M, Strom C, Conto SL, Hetru C, Stuart LM, Stehle T, Hoffmann JA, Reichhart JM, Ferrandon D, Ramet M, Ezekowitz RA. *Cell.* 2005 Oct 21;123(2):335-46.
8. The Jak-STAT signaling pathway is required but not sufficient for the antiviral response of drosophila. Dostert C, Jouanguy E, Irving P, Troxler L, Galiana-Arnoux D, Hetru C, Hoffmann JA, Imler JL. *Nat Immunol.* 2005 Sep;6(9):946-53.
9. New insights into Drosophila larval haemocyte functions through genome-wide analysis. Irving P, Ubeda JM, Doucet D, Troxler L, Lagueux M, Zachary D, Hoffmann JA, Hetru C, Meister M. *Cell Microbiol.* 2005 Mar;7(3):335-50.
10. Sensing and signaling during infection in Drosophila. Royet J, Reichhart JM, Hoffmann JA. *Curr Opin Immunol.* 2005 Feb;17(1):11-7.
11. Peptidomic and proteomic analyses of the systemic immune response of Drosophila. Levy F, Rabel D, Charlet M, Bulet P, Hoffmann JA, Ehret-Sabatier L. *Biochimie.* 2004 Sep-Oct;86(9-10):607-16.
12. Function of the drosophila pattern-recognition receptor PGRP-SD in the detection of Gram-positive bacteria. Bischoff V, Vignal C, Boneca IG, Michel T, Hoffmann JA, Royet J. *Nat Immunol.* 2004 Nov;5(11):1175-80.

13. Toll-dependent and Toll-independent immune responses in *Drosophila*. Imler JL, Ferrandon D, Royet J, Reichhart JM, Hetru C, Hoffmann JA. *J Endotoxin Res.* 2004;10(4):241-6.
14. Sensing infection in *Drosophila*: Toll and beyond. Ferrandon D, Imler JL, Hoffmann JA. *Semin Immunol.* 2004 Feb;16(1):43-53.
15. Primitive Immune System. Hoffmann JA. *Immunol Rev.* 2004; 198: 5-9.