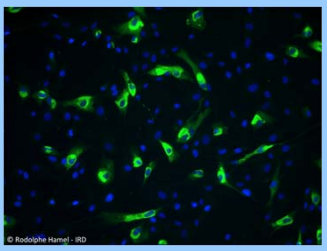

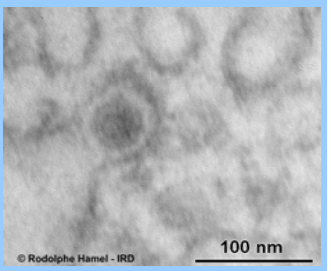

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BIOLOGY OF ZIKA VIRUS INFECTION IN HUMAN SKIN CELLS

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06 December 2017

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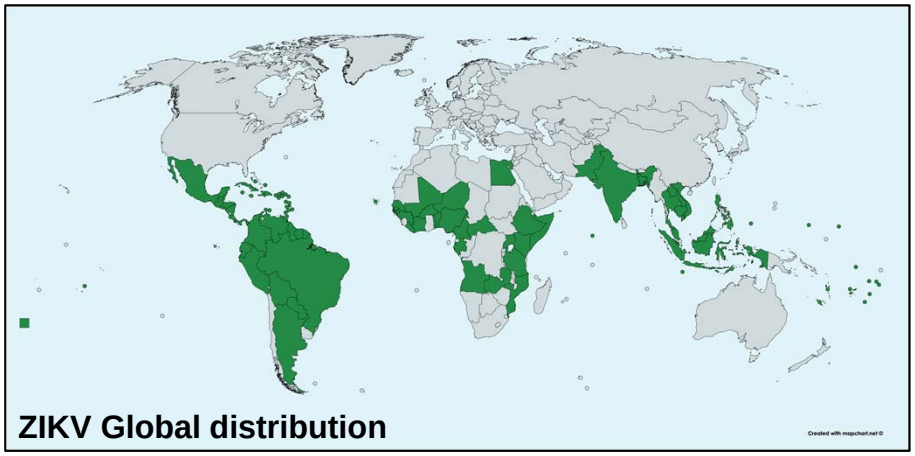
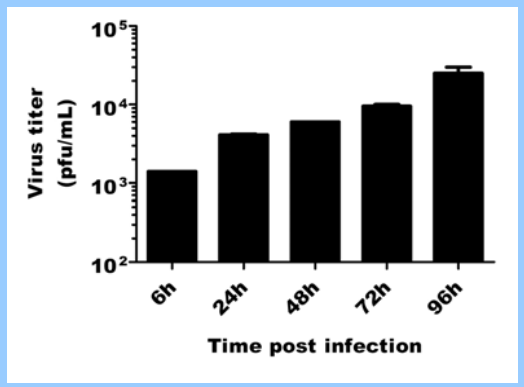
Department of Microbiology and Immunology
Department of Medical Entomology

- **Identification of skin cells tropism**
- **Characterization of entry receptors**
- **Evaluation of immune response**

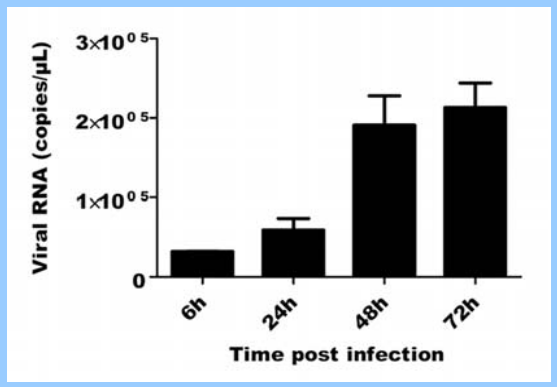


1. Human skin cells are permissive for ZIKV infection

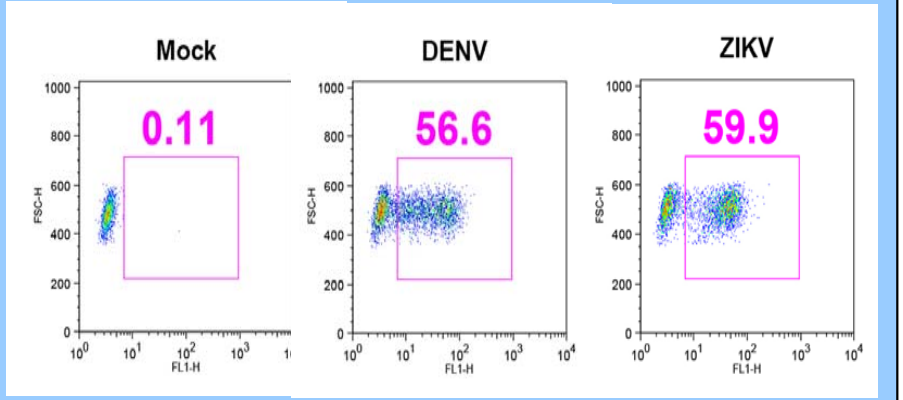
Human fibroblast



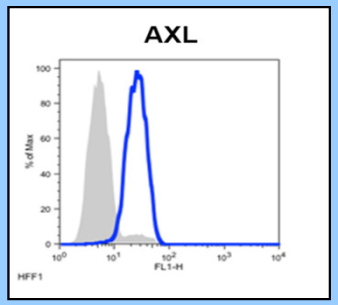
Human keratinocytes

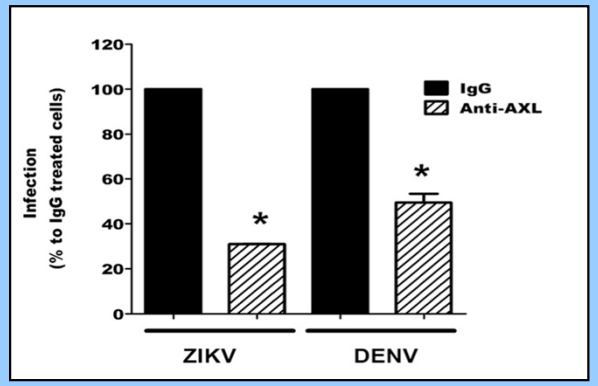


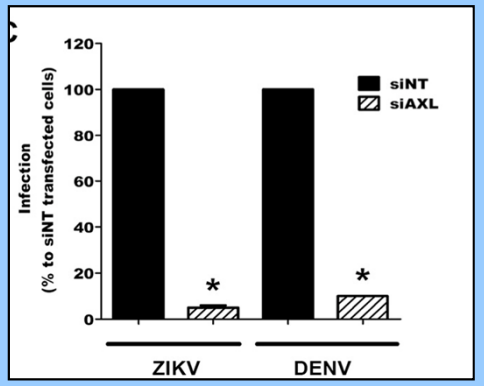
Dendritic cells

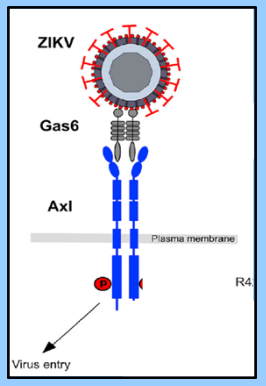


2. Axl receptors are involved in ZIVK infection

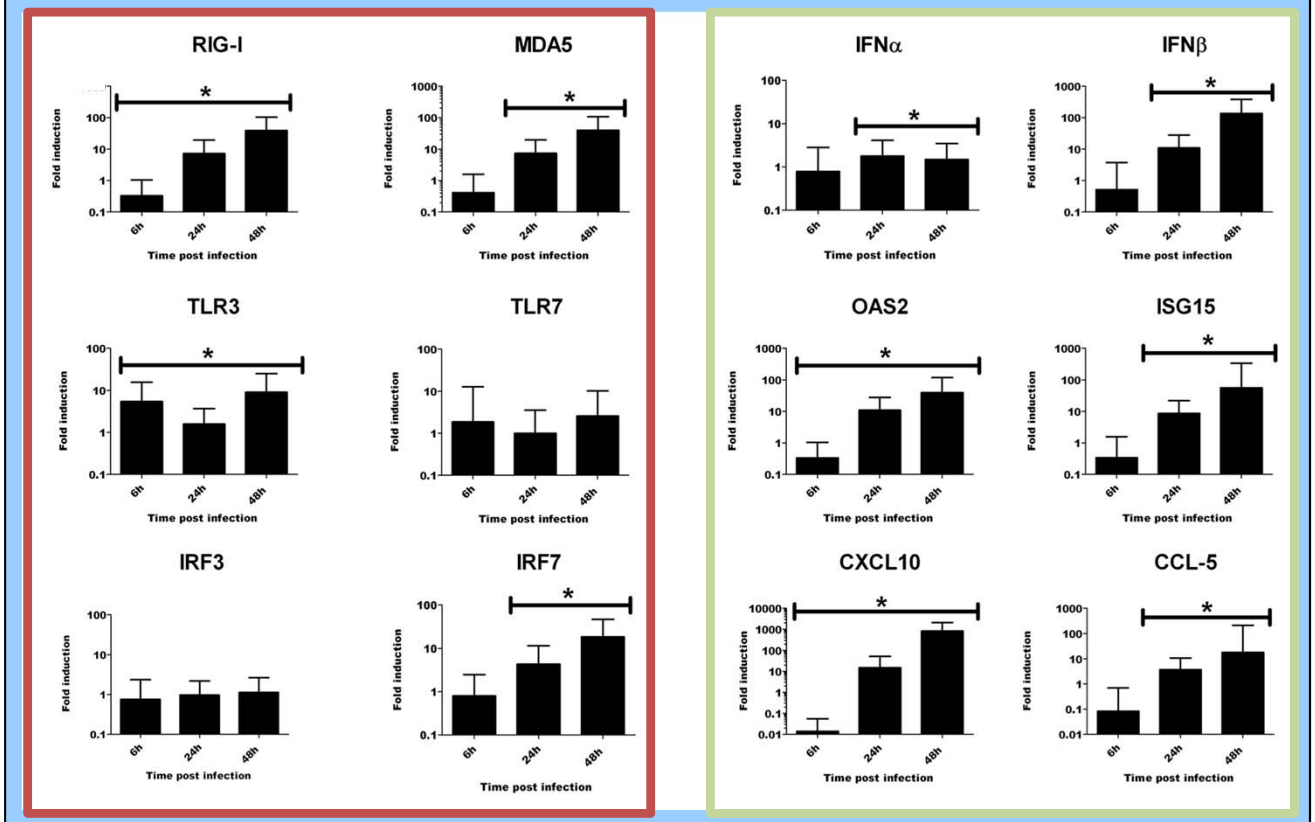








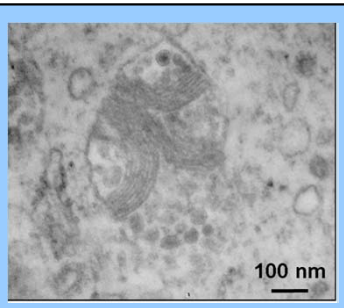
3. ZIKV induces an innate anti-viral response in human skin fibroblasts

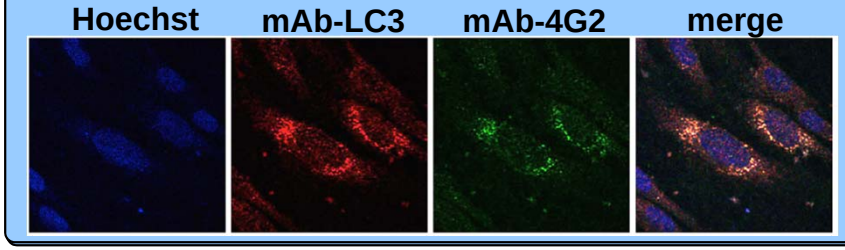


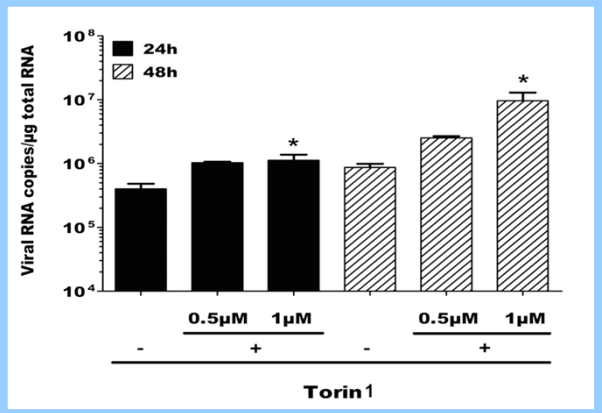
Conclusions

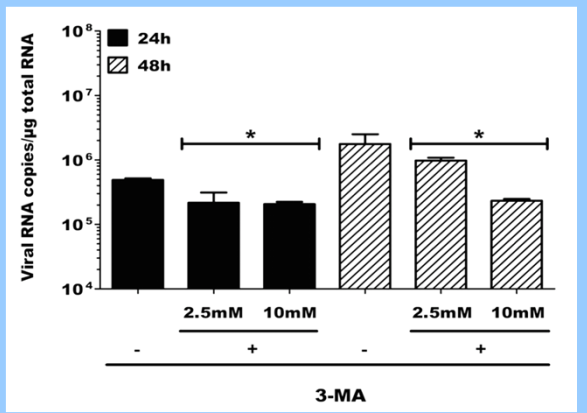
- Human fibroblasts, keratinocytes and dendritic cells are permissive to infection with ZIKV
- ZIKV entry is mediated by DC-SIGN, AXL and TIM-1 receptor
- Host immune response : induction of several antiviral gene cluster, in particular PRR, type I IFN, ISGs
- Autophagy promotes replication of ZIKV in permissive cells.

4. ZIKV induces autophagy in infected skin fibroblasts.









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