



**MEURS**  
**Eliane**

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**Domaine(s) de compétence :**

REPONSE IMMUNE INNEE, INFECTION VIRUS HEPATITE C, REPONSE AU STRESS ET VOIES DE SIGNALISATION

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**Etablissement /organisme de rattachement ou d'origine :**

INSTITUT PASTEUR

**Fonction et position :**

DIRECTEUR DE RECHERCHE, CHEF UNITE

I have a solid expertise on signaling pathways leading to induction of IFN and on the mechanism of action of the dsRNA-dependent protein kinase PKR. I was originally responsible for the cloning of this kinase which opened the door to its study, worldwide. I was also pioneer in demonstrating that PKR modulates signaling pathways involved in inflammation independently of its enzymatic activity. PKR is now emerging as an important kinase related to stress. Our current studies focus on the mechanisms by which PKR acts either as an antiviral or a pro-stress agent in HCV infection. We also examine the role of PKR in stress-associated neurodegenerative diseases such as Alzheimer disease. We investigate the role of PKR in the modulation of several signalling pathways, linked to deregulation of lipid metabolism, insulin resistance, autophagy and we are developing screening of chemical compound libraries to generate novel PKR inhibitors for clinical purpose.

**Publications marquantes**

- 1-Meurs, E.F., et al. (1990). Molecular cloning and characterization of the human double-stranded RNA activated protein-kinase induced by interferon. *Cell*. 62 379-390.
- 2-Meurs, E.F., et al. Tumor suppressor function of the interferon-induced double-stranded RNA-activated protein kinase. *Proc. Natl. Acad. Sci.* 90 232-236
- 3-Bonnet, M. C., et al. (2000). PKR stimulates HIV-1 LTR-driven gene expression by activation of NF- $\kappa$ B irrespective of its kinase function by interacting with the IKK complex. *MBC*. 20 4532-4552
- 4-Breiman A., et al. (2005). Inhibition of RIG-I-Dependent Signaling to the Interferon pathway by Hepatitis C Virus expression and restoration of signaling by IKK $\epsilon$ . *J. Virol*, 79 3969-3978.
- 5- Bonnet, M. C., et al. (2006). The N terminus of PKR is responsible for activation of the NF- $\kappa$ B signaling pathway by interacting with the IKK complex. *Cell signalling*. 18 1865-1875

- 6- Vilasco, M., et al (2006). The proteinkinase IKKe can inhibiti HCV expression independently of IFN and its expression is down-regulated in HCV-infected livers. *Hepatology*. 44 1635-1647
- 7- Vitour, D., et al (2009). Polo-like kinase 1 (PLK1) down-regulates IFN induction by MAVS. *Journal of Biological Chemistry* 284 21797-809
- 8- Arnaud, N., et al (2011) HCV reveals a novel early ;control in accute immune response. *PLoS Pathog* Oct;7(10):e1002289. 2011
- 9- Dabo S, Meurs EF.(2012) dsRNA-dependent protein kinase PKR and its role in stress, signaling and HCV infection.
- 10- Gourmaud S, et al ( 2015). Increased levels of cerebrospinal fluid JNK3 associated with amyloid pathology: links to cognitive decline. *May*;40(3):151-61