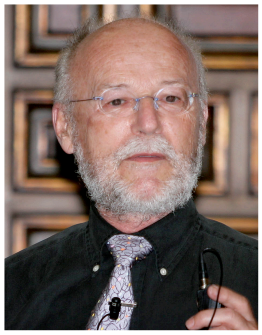
Name, **Position, Official contacts** *(completed january 2015)*



Jacques POUYSSEGUR
CNRS Research Director, Exceptional Class, Emeritus
Group Leader **"Hypoxia signaling and Cancer Metabolism"**
Institute for Research on Cancer & Aging, Nice (IRCAN),
Centre A. Lacassagne, 33 Avenue de Valombrose, 06189 Nice, France,
Centre Scientifique de Monaco (CSM) 2013-current
Visiting Professor, Kyoto University of Medicine, Kyoto, Japan, 2013-current
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Education, scientific training:

Engineer in Biochemistry, 1966 INSA (University of Lyon)
Doctor es-Sciences (Thesis) 1972 INSA (University of Lyon)
Post-doctorant National Cancer Institute (Bethesda, USA) 1974-1976
Sabbatical 1989, University San Francisco (lab. H. Bourne) – Sabbatical 1996, MIT (lab R. Weinberg)
Research Group Leader (1980-current) University of Nice, CNRS Institutes (ISBDC, IRCAN)
Director of the CNRS Institute of Signaling, Develop. Biology and Cancer Research – (1997-2007)

Specialization

Control of cell division – Growth factors - Na^+/H^+ Antiporters – pH control - MAP kinases – Angiogenesis – Nutrient sensors – Hypoxia signaling – Tumour microenvironment – Metabolism and Cancer.

Honours, Awards:

Prizes: 1989, Savoie Prize (LNCC); 1989, Delahautemaison Nephrology Prize (FRM); 1995, Rosen Cancerology Prize (FRM); 1996, Lounsbery Prize of American and French Academy of Sciences; 1999, Athena and Institut de France Prize; 2001, Leopold Griffuel Cancer Prize (ARC); 2002, Sir Hans Krebs Medal (FEBS); 2008, Carl Cori Lecture Award (Roswell Park, USA)
Member EMBO; Member French Academy of Sciences and Europea.

Research interests

Over the last 30 years, J. Pouyssegur's group has combined genetics and molecular biology to study the mechanisms of action of growth factors and has characterized the major signaling pathways controlling cell proliferation. This team has made a substantial contribution to the areas of glycolytic metabolism, intracellular pH regulation, the molecular structure of the Na/H exchanger (first to clone the human isoform) and shown that intracellular pH and MAP kinase (ERKs) signaling are critical for cell cycle entry.
During the last 12 years the group has turned its interest to another essential growth mechanism : how cells control their nutrient supply. This key process has led them to investigate mechanisms of hypoxia signaling, angiogenesis, nutritional stress and aberrant metabolism in tumours. Currently Pouyssegur's group pursues the analysis, at a fundamental level, of the physiological role for key targets induced by nutritional stress and hypoxia in tumors. The focus is on tumor aberrant glucose metabolism (Warburg effect), glycolysis, mitophagy/autophagy driven by HIF, with a special interest in translational research applied to triple negative breast cancers, glioblastoma and lung cancers. Numerous anticancer targets are in the process of being validated in preclinical mouse models, by this team (carbonic anhydrases CA9, CA12, bicarbonate transporters NBCs, monocarboxylate transporters MCT1, MCT4, their chaperone CD147/Basigin and aminoacid transporter LAT1/CD98…). These targets all share a common participation to the 'Darwinian' tumour selection and progression within the hypoxic, acidic and nutrient-deprived tumour microenvironment.

Publications – Invited Lectures

Number of papers in **refereed journals** : **390** - 38 000 citations, ***h-index* = 110**
Number of lectures to scientific meetings **as invited speaker** : **460**

Five recent Publications

- Kroemer, G. and **Pouysségur**, **J** (2008) ***Cancer Cell* 13**, 472-82. Tumor cell metabolism; cancer's Achilles heel.
- Chiche J, Ilc K, Laferrière J, Trottier E, Dayan F, Mazure NM, Brahimi-Horn MC, **Pouysségur J**. (2009) ***Cancer Res*. 69**, 358-368. Hypoxia-inducible carbonic anhydrase IX and XII promote tumor cell growth by counteracting acidosis through the regulation of the intracellular pH.
- Le Floch R, Chiche J, Marchiq I, Naïken, Ilc K, Murray C, Critchlow S, Roux D, Simon MP and **Pouysségur J** (2011) ***Proc. Natl. Acad. Sci** (USA).* **108**, 16663-8. CD147 subunit of lactate/H+ symporters MCT1 and hypoxia-inducible MCT4 is critical for energetics and growth of glycolytic tumours.
- Parks S., Chiche J, **Pouysségur**, **J**. (2013) ***Nature Reviews Cancer* 13**:611-23. Disrupting proton dynamics and metabolism for cancer therapy.
- Marchiq, I., Le Floch, R., Roux, D., Simon, MP., **Pouyssegur, J.** (2015) Genetic Disruption of Lactate/H^+ Symporters (MCTs) and their Subunit CD147/BASIGIN Sensitizes Glycolytic Tumor Cells to Phenformin. ***Cancer Res*** (in press).