



Wrocławskie Forum Biologii Eksperymentalnej

Instytut Immunologii i Terapii Doświadczalnej im. Ludwika
Hirsfelda PAN we Wrocławiu



oraz Instytut Biologii Eksperymentalnej, Uniwersytet Wrocławski.

ZAPRASZAJĄ NA WYKŁAD

Prof. Jamesa A. McCubrey

*"Multifaceted Roles of GSK-3: Tumor Suppressor
and Tumor Promoter"*

wykład odbędzie się

30 sierpnia 2013 r. (piątek) o godz. 12.00

W Auli im. Stefana Śłopka (I p.)

Instytutu Immunologii i Terapii Doświadczalnej PAN we Wrocławiu

WSPÓLORGANIZATORZY:

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Multifaceted Roles of GSK-3: Tumor Suppressor and Tumor Promoter

James A. McCubrey

Department of Microbiology & Immunology, East Carolina University, Greenville, North Carolina, USA

Glycogen synthase kinase-3 (GSK-3) is well documented to participate in a complex array of critical cellular processes. It was initially identified in rat skeletal muscle as a serine/threonine kinase that phosphorylated and inactivated glycogen synthase. This versatile protein is involved in numerous signaling pathways that influence metabolism, embryogenesis, differentiation, migration, cell cycle progression and survival. Recently, GSK-3 has been implicated in leukemia stem cell pathophysiology and may be an appropriate target for its eradication. In this review, we will discuss the roles that GSK-3 plays in hematopoiesis and leukemogenesis as how this pivotal kinase can interact with multiple signaling pathways such as: Wnt/ β -catenin, phosphoinositide 3-kinase (PI3K)/phosphatase and tensin homolog (PTEN)/Akt/mammalian target of rapamycin (mTOR), Ras/Raf/MEK/extracellular signal-regulated kinase (ERK), Notch and others. Moreover, we will discuss how targeting GSK-3 and these other pathways can improve leukemia therapy and may overcome therapeutic resistance. In summary, GSK-3 is a crucial regulatory kinase interacting with multiple pathways to control various physiological processes, as well as leukemia stem cells, leukemia progression and therapeutic resistance. GSK-3 and Wnt are clearly intriguing therapeutic targets.