GEORGE PANAYOTOU

DIRECTOR & CHAIRMAN OF THE BOARD

BIOMEDICAL SCIENCES RESEARCH CENTER "ALEXANDER FLEMING"

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EDUCATION

University of Athens: Ptychion (BSc) in Chemistry	1977–82
University of Sussex: MSc in Biochemistry	1982–83
University College London & National Institute for Medical Research: PhD in Biochemistry	1983–87

ACADEMIC EMPLOYMENT

Senior Research Fellow, Ludwig Institute for Cancer Research, London	1987–98
Honorary Lecturer, Department of Biochemistry, University College London	1997–98
Researcher B', B.S.R.C. "Alexander Fleming"	1999–05
Director, Institute of Molecular Oncology, B.S.R.C. "Alexander Fleming"	2006–12
Acting Director, Institute for Bioinnovation, B.S.R.C. "Alexander Fleming"	2019–2022
Acting Director, B.S.R.C. "Alexander Fleming"	2020–2022
Director & Chairman of the Board, B.S.R.C. "Alexander Fleming"	2022–present

HONORS & PROFESSIONAL ACTIVITIES

Alexander S. Onassis Foundation Fellowship for PhD studies	1983–86
Member of the Editorial Board: Biochemical Journal	2005-15
Member of the Editorial Board: Journal of Proteomics	2010–present
Associate Member of the National Council on Research and Technology	2008–10
Member of the Administrative Board, B.S.R.C. Fleming	2006–12 & 2015–present
President of Institute Scientific Committee, B.S.R.C. Fleming	2015–20
Member of the FEBS Fellowships Committee	2015–18
Associate Member of the Biomedical Sector Scientific Council, National Council for Research and Innovation	2018–20

SELECTED PUBLICATIONS (From 137 Total in Pubmed–10620 Non-Self Citations, H-index: 45)

1. Panayotou, G., End, P., Aumailley, M., Timpl, R., and Engel, J. (1989). Domains of laminin with growth-factor activity. **Cell** *56*, 93–101.
2. Hiles, I.D., Otsu, M., Volinia, S., Fry, M.J., Gout, I., Dhand, R., Panayotou, G., Ruiz-Larrea, F., Thompson, A., Totty, N.F., Hsuan, J.J., Courtneidge, S.A., Parker, P.J., and Waterfield, M.D. (1992). Phosphatidylinositol 3-kinase: Structure and expression of the 110 kd catalytic subunit. **Cell** *70*, 419–429.
3. Booker, G.W., Breeze, A.L., Downing, A.K., Panayotou, G., Gout, I., Waterfield, M.D., and Campbell, I.D. (1992). Structure of an SH2 domain of the p85 alpha subunit of phosphatidylinositol-3-OH kinase. **Nature** *358*, 684–687.
4. Panayotou, G., Bax, B., Gout, I., Federwisch, M., Wroblowski, B., Dhand, R., Fry, M.J., Blundell, T.L., Wollmer, A., and Waterfield, M.D. (1992). Interaction of the p85 subunit of PI 3-kinase and its N-terminal SH2 domain with a PDGF receptor phosphorylation site: structural features and analysis of conformational changes. **EMBO J** *11*, 4261–4272.
5. Panayotou, G., and Waterfield, M.D. (1992). Phosphatidyl-inositol 3-kinase: a key enzyme in diverse signalling processes. **Trends Cell Biol** *2*, 358–360.
6. Panayotou, G., Gish, G., End, P., Truong, O., Gout, I., Dhand, R., Fry, M.J., Hiles, I., Pawson, T., and Waterfield, M.D. (1993). Interactions between SH2 domains and tyrosine-phosphorylated platelet-derived growth factor beta-receptor sequences: analysis of kinetic parameters by a novel biosensor-based approach. **Mol Cell Biol** *13*, 3567–3576.
7. Ponzetto, C., Bardelli, A., Zhen, Z., Maina, F., dalla Zonca, P., Giordano, S., Graziani, A., Panayotou, G., and Comoglio, P.M. (1994). A multifunctional docking site mediates signaling and transformation by the hepatocyte growth factor/scatter factor receptor family. **Cell** *77*, 261–271.
8. Wymann, M.P., Bulgarelli-Leva, G., Zvelebil, M.J., Pirola, L., Vanhaesebroeck, B., Waterfield, M.D., and Panayotou, G. (1996). Wortmannin inactivates phosphoinositide 3-kinase by covalent modification of Lys-802, a residue involved in the phosphate transfer reaction. **Mol Cell Biol** *16*, 1722–1733.

9. Spanopoulou, E., Zaitseva, F., Wang, F.H., Santagata, S., Baltimore, D., and Panayotou, G. (1996). The homeodomain region of Rag-1 reveals the parallel mechanisms of bacterial and V(D)J recombination. **Cell** *87*, 263–276.
10. Salim, K., Bottomley, M.J., Querfurth, E., Zvelebil, M.J., Gout, I., Scaife, R., Margolis, R.L., Gigg, R., Smith, C.I., Driscoll, P.C., Waterfield, M.D., and Panayotou, G. (1996). Distinct specificity in the recognition of phosphoinositides by the pleckstrin homology domains of dynamin and Bruton's tyrosine kinase. **EMBO J** *15*, 6241–6250.
11. Chan, T.O., Rodeck, U., Chan, A.M., Kimmelman, A.C., Rittenhouse, S.E., Panayotou, G., and Tsichlis, P.N. (2002). Small GTPases and tyrosine kinases coregulate a molecular switch in the phosphoinositide 3-kinase regulatory subunit. **Cancer Cell** *1*, 181–191.
12. Saridaki, A., and Panayotou, G. (2005). Identification of growth factor-regulated proteins using 2D electrophoresis and mass spectrometry. **Growth Factors** *23*, 223–232.
13. Ikonomou, G., Samiotaki, M., and Panayotou, G. (2009). Proteomic methodologies and their application in colorectal cancer research. **Crit Rev Clin Lab Sci** *46*, 319–342.
14. Gkiafi, Z., and Panayotou, G. (2011). Comparative proteomic analysis implicates COMMD proteins as Epstein-Barr virus targets in the BL41 Burkitt's lymphoma cell line. **J Proteome Res** *10*, 2959–2968.
15. Cotsiki, M., Oehrl, W., Samiotaki, M., Theodosiou, A., and Panayotou, G. (2012). Phosphorylation of the M3/6 dual-specificity phosphatase enhances the activation of JNK by arsenite. **Cell Signal** *24*, 664–676.
16. Ikonomou, G., Kostourou, V., Shirasawa, S., Sasazuki, T., Samiotaki, M., and Panayotou, G. (2012). Interplay between oncogenic K-Ras and wild-type H-Ras in Caco2 cell transformation. **J Proteomics** *75*, 5356–5369.
17. Oehrl, W., Cotsiki, M., and Panayotou, G. (2013). Differential regulation of M3/6 (DUSP8) signaling complexes in response to arsenite-induced oxidative stress. **Cell Signal** *25*, 429–438.
18. Elkouris, M., Kontaki, H., Stavropoulos, A., Antonoglou, A., Nikolaou, K.C., Samiotaki, M., Szantai, E., Saviolaki, D., Brown, P.J., Sideras, P., Panayotou, G., and Talianidis, I. (2016). SET9-Mediated Regulation of TGF-beta Signaling Links Protein Methylation to Pulmonary Fibrosis. **Cell Rep** *15*, 2733–2744.
19. Mylonis, I., Kourti, M., Samiotaki, M., Panayotou, G., and Simos, G. (2017). Mortalin-mediated and ERK-controlled targeting of HIF-1 alpha to mitochondria confers resistance to apoptosis under hypoxia. **J Cell Sci** *130*, 466–479.
20. Daras, G., Rigas, S., Alatzas, A., Samiotaki, M., Chatzopoulos, D., Tsitsekian, D., Papadaki, V., Templalexis, D., Banilas, G., Athanasiadou, A.-M., Kostourou, V., Panayotou, G., and Hatzopoulos, P. (2019). LEFKOTHEA Regulates Nuclear and Chloroplast mRNA Splicing in Plants. **Dev Cell** *50*, 767–779.e7.
21. Stamatakis, G., Samiotaki, M., Temponeras, I., Panayotou, G., and Stratikos, E. (2021). Allotypic variation in antigen processing controls antigenic peptide generation from SARS-CoV-2 S1 spike glycoprotein. **J Biol Chem** *297*, 101329.
22. Chandris, P., Giannouli, C.C., and Panayotou, G. (2021). Imaging Approaches for the Study of Metabolism in Real Time Using Genetically Encoded Reporters. **Front Cell Dev Biol** *9*, 725114.
23. Karkali, K., Saunders, T.E., Panayotou, G., and Martín-Blanco, E. (2023). JNK signaling in pioneer neurons organizes ventral nerve cord architecture in Drosophila embryos. **Nat Commun** *14*, 675.

PATENTS

1. Hiles, I.D., Fry, M.J., Dhand, R., Waterfield, M.D., Parker, P.J., Otsu, M., Panayotou, G., Volinia, S., and Gout, I. (1998). Polypeptides having kinase activity, their preparation and use. **US Patent 5,824,492**.
2. Dhand, R., Waterfield, M.D., Hiles, I.D., Gout, I., Kasuga, M., Yonezawa, K., End, P., Fry, M., and Panayotou, G. (1998). Methods to inhibit serine kinase activity and to alter intersubunit binding activity of phosphatidylinositol 3-kinase, and serine kinase active sequence of the same. **US Patent 5,741,689**.

AD-HOC REVIEWER FOR JOURNALS AND FUNDING ORGANIZATIONS

Analytical Biochemistry, Archives of Biochemistry and Biophysics, BBA, Biochemical Pharmacology, Biochemistry, Cancer Research, Current Biology, EMBO Journal, European Journal of Biochemistry, FEBS Letters, Journal of Cancer Research and Clinical Oncology, Journal of Proteome Research, Mechanisms of Ageing and Development, Mol. Cell Biol., Oncogene, PLoSONE, Protein Science, TIBS.

European Commission, GSRI, HFRI & SSF (Greece), MRC, BBSRC & Welcome Trust (UK), Dutch Cancer Society, Italian Association for Cancer Research, La Caixa Foundation, FEBS

TEACHING

- 1991–1998: University College London: Department of Biochemistry and Molecular Biology, Department of Physiology.
- 1999–2023: Post-graduate courses at the University of Athens (School of Biology, School of Medicine), University of Crete (School of Medicine), University of Thrace (School of Health Sciences), University of Thessaly (School of Medicine).