

SHORT CV	
NAME George Panayotou	CURRENT POSITION Researcher A', B.S.R.C. "Alexander Fleming", 34 Fleming Street, Vari 16672, Greece email: panayotou@fleming.gr ; Tel: +30-2109655054

EDUCATION

UNIVERSITY	DEGREE	YEAR	FIELD OF STUDY
University of Athens	Ptychion (B.Sc.)	1982	Chemistry
University of Sussex	MSc	1983	Biochemistry
University College London /N.I.M.R.	PhD	1987	Biochemistry

EMPLOYMENT

Senior Research Fellow, Ludwig Institute for Cancer Research, London, 1987-1998
 Honorary Lecturer, Department of Biochemistry, University College London (1997-1998)
 Researcher B', B.S.R.C. "Alexander Fleming", 1999-2005
 Director, Institute of Molecular Oncology, B.S.R.C. "Alexander Fleming", 2006 – 2012

HONORS & AWARDS

Bodosakis Foundation Fellowship (1977-1982)
 Alexander S. Onasis Foundation Fellowship (1983-1986)
 Member of the Editorial Board: Biochemical Journal, Journal of Proteomics
 Associate Member of the National Council on Research and Technology (2008-2010)
 Member of the Administrative Board, B.S.R.C. Fleming (2006-2012; 2015-present)
 Member of the FEBS Fellowships Committee (2015-present)
 Reviewer for scientific journals and evaluator for European Commission and national grants.

PATENTS

1. Polypeptides having kinase activity, their preparation and use.
 Hiles, I.D., Fry, M.J., Dhand, R., Waterfield, M.D., Parker, P.J., Otsu, M., Panayotou, G.,
 Volinia, S. and Gout, I.: US Patent no. 5,824,492, 20 October 1998.
2. Methods to inhibit serine kinase activity and to alter intersubunit binding activity of
 phosphatidylinositol 3-kinase, and serine kinase active sequence of the same.
 Dhand, R., Waterfield, M.D., Hiles, I.D., Gout, I.T., Kasuga, M., Yonezawa, K., End, P., Fry, M.
 and Panayotou, G.: US patent no. 5,741,689, 21 April 1998.
3. Wortmannin phosphoinositide 3-kinase interaction site
 Bulgarelli-Vela, G., Wymann, M.P., Vanhaesebroeck, B., Zvelebil, Z., Panayotou, G. and
 Waterfield, M.D. Patent No. WO9715658, 1 May 1997.

PUBLICATIONS (selected from a total of 105 with 8800 citations, h-index: 39)

1. Domains of laminin with growth factor activity. Panayotou, G., End, P., Aumailly, M., Timpl, R.
 and Engel, J. (1989) **Cell** 56, 93-101.
2. Characterization of two 85 kDa proteins that associate with receptor tyrosine kinases, middle-
 T/pp60c-src complexes, and PI3-kinase. Otsu, M., Hiles, I., Gout, I., Fry, M.J., Ruiz-Larrea, F.,
Panayotou, G., Thompson, A., Dhand, R., Hsuan, J., Totty, N., Smith, A.D., Morgan, S.,
 Courtneidge, S.A., Parker, P. and Waterfield, M.D. (1991) **Cell** 65, 91-104.
3. Phosphatidylinositol 3-kinase: Structure and expression of the 110 kd catalytic subunit.
 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) **Cell** 70, 419-429.
4. Structure of an SH2 domain of the p85 α subunit of phosphatidylinositol 3-kinase. Booker, G.W.,
 Breeze, A., Downing, A.K., Panayotou, G., Gout, I., Waterfield, M.D. and Campbell, I.D. (1992)
Nature 358, 684-7.

5. 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. 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) **EMBO J.** 11, 4261-4272.
6. Phosphatidylinositol 3-kinase: a key enzyme in diverse signalling processes. Panayotou, G. and Waterfield, M.D. (1992) **Trends Cell Biol.** 2, 358-360.
7. The GTPase dynamin binds to and is activated by a subset of SH3 domains. Gout, I., Dhand, R., Hiles, I.D., Fry, M.J., Panayotou, G., Das, P., Truong, O., Totty, N.F., Hsuan, J., Booker, G.W., Campbell, I.D. and Waterfield, M.D. (1993) **Cell** 75, 25-36.
8. Interactions between SH2 domains and tyrosine-phosphorylated PDGF β -receptor sequences: Analysis of kinetic parameters using a novel biosensor-based approach. Panayotou, G., Gish, G., End, P., Truong, O., Gout, I., Dhand, R., Fry, M.J., Hiles, I., Pawson, T. and Waterfield, M.D. (1993) **Mol. Cell. Biol.** 13, 3567-76.
9. A multifunctional docking site mediates signalling and transformation by the hepatocyte growth factor / scatter factor (HGF/SF) receptor family. Ponzetto, C., Bardelli, A., Zhen, Z., della Zonca, P., Maina, F., Giordano, S., Graziani, A., Panayotou, G. and Comoglio, P.M. (1994) **Cell** 77, 261-271.
10. Wortmannin inactivates phosphoinositide 3-kinase by covalent modification of Lys-802, a residue involved in the phosphate transfer reaction. Wymann, M.P., Bulgarelli-Leva, G., Zvelebil, M.J., Pirola, L., Vanhaesebroeck, B., Waterfield, M.D. and Panayotou, G. (1996) **Mol. Cell. Biol.** 16, 1722-1733.
11. Distinct specificity in the recognition of phosphoinositides by the Pleckstrin Homology domains of dynamin and Bruton's tyrosine kinase (Btk). Salim, K., Bottomley, M.J., Querfurth, E., Zvelebil, M., Gout, I., Scaife, R., Margolis, R. L., Gigg, R., Smith, C.I.E., Driscoll, P.C., Waterfield, M.D. and Panayotou, G. (1996) **EMBO J.** 15, 6241-6250.
12. The homeodomain region of Rag-1 reveals the parallel mechanisms of bacterial and V(D)J recombination. Spanopoulou, E., Zaitseva, F., Wang, F.-H., Santagata, S., Baltimore, D. and Panayotou, G. (1996) **Cell** 87, 263-276.
13. Crystal structure of a G:T/U mismatch-specific DNA glycosylase: Mismatch recognition by complementary-strand interactions. Barrett, T.E., Savva, R., Panayotou, G., Barlow, T., Brown, T.A., Jiricny, J. and Pearl, L.H. (1998) **Cell** 92, 117-129.
14. Surface Plasmon Resonance: Measuring protein interactions in real time. Panayotou, G. (1998) **Methods Mol. Biol.** 88, 1-10.
15. Phospholipid-binding protein domains. Bottomley, M.J., Salim, K. and Panayotou, G. (1998) **Biochim. Biophys. Acta** 1436, 165-183.
16. A read-ahead function in archaeal DNA polymerases detects pro-mutagenic template-strand uracil. Greagg, M.A., Fogg, M.J., Panayotou, G., Evans, S.J., Connolly, B.A. and Pearl, L.H. (1999) **Proc. Natl. Acad. Sci. USA**, 96, 9045-9050.
17. Small GTPases and tyrosine kinases coregulate a molecular switch in the phosphoinositide 3-kinase regulatory subunit. Chan, T.O., Rodeck, U., Chan, A.M., Kimmelman, A.C., Rittenhouse, S.E., Panayotou, G. and Tschlis, P.N. (2002) **Cancer Cell**, 1, 181-191.
18. Intracellularly expressed single domain antibody prevents the production of porcine retroviruses. Dekker, S., Toussaint, W., Panayotou, G., de Wit, T., Visser, P., Grosveld, F. and Drabek, D. (2003) **J. Virology** 77, 12132-12139.
19. Direct interaction of MHC class II derived peptides with class Ia PI 3-kinase results in dose-dependent stimulatory effects. Foukas, L.C., Panayotou, G., and Shepherd, P.R. (2004) **J. Biol. Chem.** 279, 7505-11.
20. Identification of growth factor-regulated proteins using 2D electrophoresis and mass spectrometry. Saridaki, A. and Panayotou, G. (2005) **Growth Factors** 23, 223-232.
21. Identification of MAPK Phosphorylation Sites and Their Role in the Localization and Activity of Hypoxia-inducible Factor-1 α . Mylonis I, Chachami G, Samiotaki M, Panayotou, G., Paraskeva E, Kalousi A, Georgatsou E, Bonanou S, Simos G. (2006) **J Biol Chem.** 281, 33095-33106.

22. Generation of heavy-chain-only antibodies in mice. Janssens R, Dekker S, Hendriks RW, Panayotou G, van Remoortere A, San JK, Grosveld F, Drabek D. (2006) **Proc Natl Acad Sci USA**. 103, 15130-15135
23. RBM15 binds to the RNA transport element RTE and provides a direct link to the NXF1 export pathway. Lindtner S, Zolotukhin AS, Uranishi H, Bear J, Kulkarni V, Smulevitch S, Samiotaki M, Panayotou G, Felber BK, Pavlakis GN. (2006) **J Biol Chem**. 281, 36915-36928.
24. RNA interference of interferon regulatory factor-1 gene expression in THP-1 cell line leads to Toll-like receptor-4 overexpression/activation as well as up-modulation of Annexin-II. Maratheftis CI, Giannouli S, Spachidou MP, Panayotou G, Voulgarelis M. (2007) **Neoplasia** 9, 1012-20.
25. The essential function of tim12 in vivo is ensured by the assembly interactions of its C-terminal domain. Lionaki E, de Marcos Lousa C, Baud C, Vougioukalaki M, Panayotou G, Tokatlidis K. (2008) **J Biol Chem**. 283,15747-53.
26. Proteomic methodologies and their application in colorectal cancer research. Ikononou, G., Samiotaki, M. and Panayotou, G. (2009) **Crit. Rev. Clin. Lab. Sci.**, 46, 319-42.
27. β 2 glycoprotein I (β 2GPI) binds platelet factor 4 (PF4): implications for the pathogenesis of antiphospholipid syndrome. Sikara MP, Routsias JG, Samiotaki M, Panayotou G, Moutsopoulos HM, Vlachoyiannopoulos PG. (2010) **Blood** 115, 713-723.
28. Identification of novel PTEN-binding partners: PTEN interaction with fatty acid binding protein FABP4. Gorbenko O, Panayotou G, Zhyvoloup A, Volkova D, Gout I, Filonenko V. (2009) **Mol Cell Biochem**, 337, 299-305.
29. Differential detection of nuclear envelope autoantibodies in primary biliary cirrhosis using routine and alternative methods. Tsangaridou E, Polioudaki H, Sfakianaki R, Samiotaki M, Tzardi M, Koulentaki M, Panayotou G, Kouroumalis E, Castanas E, Theodoropoulos PA. (2010) **BMC Gastroenterol**, 10, 28.
30. Analysis of Secreted Proteins for the Study of Bladder Cancer Cell Aggressiveness. Makridakis M, Roubelakis MG, Bitsika V, Dimuccio V, Samiotaki M, Kossida S, Panayotou G, Coleman J, Candiano G, Anagnou NP, Vlahou A. (2010) **J. Proteome Res**. 9, 3243-59.
31. Comparative proteomic analysis implicates COMMD proteins as Epstein-Barr virus targets in the BL41 Burkitt's lymphoma cell line. Gkiafi, Z. and Panayotou, G. (2011) **J. Proteome Res**. 10, 2959-68.
32. Phosphorylation of the M3/6 dual-specificity phosphatase enhances the activation of JNK by arsenite. Cotsiki, M., Oehrl, W., Samiotaki, M., Theodosiou, A. and Panayotou, G. (2012), **Cell. Signal**. 24, 664-676.
33. Interplay between oncogenic K-ras and wild-type H-ras in Caco2 cell transformation. Ikononou, G., Kostourou, V., Shirasawa, S., Sasazuki, T., Samiotaki, M. and Panayotou, G. (2012) **J. Proteomics**, 75, 5356–5369.
34. Differential regulation of M3/6 (DUSP8) signalling complexes in response to arsenite-induced oxidative stress. Oehrl, W., Cotsiki, M. and Panayotou, G. (2013) **Cell. Signal**. 25, 429–438.

TEACHING

1991-1998: University College London (Department of Biochemistry and Molecular Biology, Department of Physiology, UC Middlesex School of Medicine).

- Lectures for the 'Protein Structure and Enzymology' and 'Biochemistry of Carcinogenesis' courses (3rd year undergraduates and MSc students)
- Lectures on 'Oncogenes and Cell Growth' for 2nd year undergraduates.
- 3rd year intercalated B.Sc. course in Cell Pathology, lectures on 'Signal Transduction'.
- 3rd year course in Cell Physiology, lectures and tutorials on 'Receptor Tyrosine Kinases'.

1999-2015: University of Athens (School of Biology, School of Medicine), University of Crete (School of Medicine) and University of Thessaly (School of Medicine).

- Lectures to post-graduate students on Proteomics, Receptors in Human Disease, Cellular Signalling, etc.