

CURRICULUM VITAE

PERSONAL INFORMATION

First name, Family name: **Dr George Zachos**
Researcher unique identifier(s): ORCID ID: 0000-0001-8935-2106
Date of Birth: 23-05-1971
Nationality: Greek
Citizenship: Greek/ UK

Correspondence:

Department of Biology, University of Crete, Vassilika Vouton, Heraklion 70013, Crete, Greece. Tel.: +30 2810 394365; Fax: + 30 2810 394408; Email: gzachos@uoc.gr

EDUCATION

5/ 1994 – 10/ 1997: **PhD** (Molecular and cellular Biology). Institute of Biological Research and Biotechnology, National Hellenic Research Foundation, Athens and Medical School, University of Crete, Heraklion, Greece. Advisor: Prof D Spandidos
1989 – 1994: **BSc in Biology** (4-year course). Department of Biology, University of Athens, Athens, Greece. Mark: 7.9/ 10.

CURRENT POSITION

11/ 2015 - **Associate Professor** (Cell Biology), Group Leader.
Department of Biology, University of Crete, Heraklion, Greece.

PREVIOUS POSITIONS

4/ 2012 – 10/ 2015: **Tenured Assistant Professor** (Cell Biology), Group Leader.
Department of Biology, University of Crete, Heraklion, Greece.
5/ 2008 – 3/ 2012: **Assistant Professor** (Cell Biology), Group Leader.
Department of Biology, University of Crete, Heraklion, Greece.
4/ 2003 – 12/ 2007: **Senior Post-Doc.** Advisor: Prof DA Gillespie.
Beatson Institute for Cancer Research, Glasgow, U.K.
3/ 2000 – 3/ 2003: **Post-Doc.** Advisor: Prof DA Gillespie.
Beatson Institute for Cancer Research, Glasgow, U.K.
11/ 1997 – 2/ 2000: **Post-Doc.** Advisor: Prof JB Clements.
Institute of Virology, University of Glasgow, Glasgow, U.K.

MAJOR RESEARCH ACCOMPLISHMENTS

- Demonstration that DNA damage response proteins also have essential roles in unperturbed mitotic cell division.
- Identification of a conserved phosphorylation site on Aurora B kinase (human serine 331) that is required for complete Aurora B catalytic activity.

- Demonstration that Chk1 and Chk2 kinases regulate the mitotic spindle checkpoint and promote accurate chromosome segregation in human cells by phosphorylating Aurora B-serine 331 in prometaphase.
- Demonstration that the ESCRT protein Chmp4c has unexpected roles in promoting optimal chromosome alignment and segregation by interacting with kinetochore-microtubules and promoting localization of the spindle checkpoint complex RZZ to kinetochores.
- Identification of Cdc-like kinases (Clks) as upstream regulators of Aurora B in the abscission checkpoint, by phosphorylating Aurora B-serine 331 at the midbody in cytokinesis.
- Identification of a phosphorylation site on BLM helicase (human serine 502) that stabilizes BLM protein. Demonstration that Chk1 protects cells against chromatin bridges, by phosphorylating BLM-serine 502 to facilitate resolution of DNA replication intermediates.
- Identification of a phosphorylation site on Src kinase (human serine 51) that promotes complete Src catalytic activity. Demonstration that Chk1 phosphorylates Src-serine 51 to promote formation of actin patches at the base of the intercellular canal to prevent chromatin bridge-breakage in cytokinesis.
- Identification of novel signaling pathways that link the presence of chromatin bridges to the chromosomal passenger complex to impose the abscission checkpoint in cytokinesis with chromatin bridges.
- Identification of novel phosphorylation sites on β -tubulin that may be required for optimal mitotic spindle formation in human cells.
- Generation of a genetic knockout of Chk1 kinase in avian DT40 cells. This knockout is still the only viable cell line available that is deficient for Chk1 kinase and has been extremely valuable for investigating Chk1 functions in higher eukaryotic cells.

CURRENT COMPOSITION OF THE LABORATORY (autumn 2020)

- Dr George Zachos (Principal Investigator)
- Dr Eleni Petsalaki (post-doc)
- Ms Sofia Balafouti (MSc student)
- Mr Nikos Bournakas (MSc student)
- Ms Ismini Mareva (undergraduate student, final year thesis “ptyhiaki”)

MAJOR PROJECTS IN THE LABORATORY

- Investigating novel mechanisms of mitotic spindle formation in cancer cells
- Investigating mechanisms that prevent chromatin bridges from breaking in cytokinesis
- Identifying novel regulators of the mitotic spindle checkpoint in human cells

AWARDS AND FELLOWSHIPS

- 12/ 2018: The Academy of Athens; Achilleas and Ekaterini Dionysopoulou Award for the best original research paper with subject from cancer research (J Cell Biol 217: 861-876, 2018).
- 12/ 2018 Pan-Hellenic Association of Bioscientists; Commendation for excellence in Biology “Fotis Kafatos”, for our paper in Nat Commun 7: 11451, 2016.

6/ 2006: RCUK Academic Fellowship (Molecular Oncology). Faculty of Veterinary Medicine, University of Glasgow, Glasgow, U.K.

TRAINING AND MENTORING OF STUDENTS AND POST-DOCS

I have trained or mentored 2 PhD students (two awarded), 6 Master (MSc) students (four awarded), 10 two-month MSc rotations, 10 undergraduate final year theses (“ptyhiakes”), 7 three-month laboratory projects and 7 post-docs in my lab in the Department of Biology of the University of Crete. More specifically:

PhD Students

- Maria Dandoulaki 10/ 2014 – 8/ 2018 (*awarded*)
- Eleni Petsalaki 10/ 2010 – 11/ 2013 (*awarded*)

MasterStudents

- Sofia Balafouti, from 10/ 2020
- Nikos Boutakoglou, from 10/ 2020
- Maria Dandoulaki 9/ 2013 – 9/ 2014 (*awarded*)
- Nikolaos Garefalakis 9/ 2012 – 9/ 2013 (*awarded*)
- Ioanna Peraki 9/ 2009 – 12/ 2010 (*awarded*)
- Eleni Petsalaki 9/ 2009 – 9/ 2010 (*awarded*)

Post-Graduate Students: Master Rotations

- Sofia Balafouti 8/ 2020 -9/ 2020
- Nikos Boutakoglou 6/ 2020 – 7/ 2020
- Maria Dandoulaki 7/ 2013 – 8/ 2013
- Nikolaos Garefalakis 7/ 2012 – 8/ 2012
- Fani Magana 6/ 2012 – 7/ 2012
- Ioanna Kolitsaki 4/ 2011 – 5/ 2011
- Emmanuella Kallergi 7/ 2009 – 8/ 2009
- Elpiniki Kalogeropoulou 6/ 2009 – 7/ 2009
- Ioanna Peraki 7/ 2009 – 8/ 2009
- Eleni Petsalaki 7/ 2009 – 8/ 2009

Undergraduate Students: Final year thesis (“ptyhiaki”)

- Ismini Marava, from 9/ 2020
- Anna-Maria Syntihaki 9/ 2019 – 2/ 2020
- Sofia Balafouti 1/ 2019 – 8/ 2019
- Stavroula Boukoura 6/ 2017 – 12/ 2017
- Alexandros Iskantar 1/ 2017 – 8/ 2017
- Maria-Dianeira Tsiridou 7/ 2016 – 1/ 2017
- Manos Stylianakis 12/ 2014 – 8/ 2015
- Anna Mantsiou 1/ 2012 – 9/ 2012
- Georgia Koromila 9/ 2011 – 6/ 2012
- Despoina Alagantaki 10/ 2010 – 1/ 2011

Undergraduate Students: 3-month laboratory projects

- Ismini Marava 9/ 2019 – 12/ 2019

- Sofia Balafouti 10/ 2018 – 12/ 2018
- Maria-Dianeira Tsiridou 4/ 2016 – 6/ 2016
- Stavroula Boukoura 3/ 2016 – 5/ 2016
- Nikolaos Bournakas 2/ 2014 – 4/ 2014
- Anna Mantsiou 8/ 2011 – 12/ 2011
- Athena Trakaki 6/ 2011 – 8/ 2011

Post-Doc Mentoring

- Eleni Petsalaki 2/ 2014 – present.
- Persefoni Fragkiadaki 7/ 2016 – 12/ 2017
- Katerina Kouvidi 1/ 2015 – 6/ 2016
- George Vallianatos 1/ 2012 – 12/ 2013
- Lina Papadimitriou 1/ 2011 – 12/ 2011
- Dusanka Ljumovic 10/ 2010 – 9/ 2011
- Tonia Akoumianaki 10/ 2008 – 9/ 2010

TEACHING ACTIVITIES

Postgraduate course

2008 – present: Instructor; “Cell cycle and mitotic checkpoints”, 6-8 h per year. Module: “Cellular basis of life”. Joint Graduate Programme in Molecular Biology and Biomedicine, Department of Biology & School of Medicine, University of Crete.

Undergraduate courses

2008 – present: Instructor; “Cell growth, proliferation and cancer”, Elected course, 3 h per week. Department of Biology, University of Crete.

2008 – present: Instructor; Applications of current microscopy techniques”, Elected course, 2 h per week. Department of Biology, University of Crete.

2009 – present: Joint Instructor; Introduction to Biology”, Obligatory course, 8 h per year. Department of Chemistry, University of Crete.

2010 – present: Joint Instructor; Laboratory course, “Practical methods for analyzing cell functions”. Obligatory course, 6 h per year. Department of Biology, University of Crete, Heraklion, Greece.

Other teaching activities:

6/ 2010: Instructor; EMBO Practical Course “The DT40 as a model vertebrate genetic system”, Galway, Ireland.

2003 – 2006: Instructor; «Cancer: Molecular and Cellular Biology». Level 4-Honours Option, 4 h per year, Institute of Biomedical and Life Sciences, University of Glasgow, Glasgow, U.K.

INSTITUTIONAL RESPONSIBILITIES and COMMITTEES (selected)

9/ 2019 – present: Director; Division of Biochemistry, Molecular Biology, Cellular and

Developmental Biology. Department of Biology, University of Crete.

- 2018 - present: Member (2018) and President (2019) of the Evaluation Committee, in the context of the project “Gaining Academic teaching experience for new scientists holding a PhD degree in the University of Crete” for the undergraduate courses: Physical Chemistry (2018, 2019), Bioimaging (2018, 2019), Physics, (2019), Crystallographic Analysis of Biomolecules (2019), Enzyme Biotechnology (2019) and Protein Mechanics (2019) of the Department of Biology.
- 2016 – present: Responsible for Radioactivity (from 2016 onwards) and Radiation Protection Supervisor (from 2020 onwards). Department of Biology, University of Crete, Heraklion.
- 2015 – present: Curator of several communal areas and pieces of equipment of the Department of Biology, such as: The Tissue Culture suite (including three laminar flow hoods, three CO2 incubators and an inverted microscope), the Video-Microscopy live cell imaging system, the autoradiography film screening machine, the 1st floor bacteria shaker, the 1st floor bacteria incubator, etc.
- 9/ 2018 – 8/ 2020: Member; Special Interdepartmental Committee (“EDEP”). This committee runs the Joint Graduate Programme in Molecular Biology and Biomedicine of the Department of Biology & School of Medicine.
- 2015 – present: Coordinator; Module: “Cellular basis of life”, Joint Graduate Programme in Molecular Biology and Biomedicine, Department of Biology and School of Medicine.
- 2008, 2013, 2015, 2019 & 2020: Member of the 11-person Evaluation Committee for the admission of candidates in the Joint Graduate Programme in Molecular Biology and Biomedicine, Department of Biology & School of Medicine, University of Crete.
- 2011- 2015: Member, Committee for the Safety and Cleanliness of Laboratories/ Areas of the Department of Biology of the University of Crete.
- 2013: I composed and drafted the Laboratory Safety Manual for the Department of Biology of the University of Crete, Heraklion.
<http://www.biology.uoc.gr/el/studies/legislation>

REVIEWING ACTIVITIES (selected)

- 2012 – present: Reviewer for scientific journals such as Current Biology (2018), Cell Cycle (2018), Nature Communications (2016), Nature Chemical Biology (2015), Scientific Reports (2016), Molecular Oncology (2016 & 2017), Cell Death and Differentiation (2014), Biochimie (2012), etc
- 2016 – present: Elector, Member of 10 election committees for the election of Faculty members in Greek Universities.

- 2018: Reviewer, Breast Cancer Now, PhD studentship grant, U.K.
- 2018: Reviewer, FOITO, Restart 2016-2020, Research Promotion Foundation, Cyprus.
- 2017: Scientific Evaluator, Aristeia II, General Secretariat of Research & Technology (GSRT), Greece.
- 2016: Remote Referee, ERC Consolidator Grant, European Research Council
- 2016: Reviewer, FWF Stand-alone Project, Austrian Science Fund, Austria.

MEMBERSHIP OF SCIENTIFIC SOCIETIES

- 2020 – present: Ambassador and Member, The European Association for Cancer Research (EACR).
- 2020 – present: Member, The FocalPlane microscopy community; supported by The Journal of Cell Biology and The Company of Biologists.
- 1996 – present: Member, Hellenic Society for Biochemistry and Molecular Biology, Greece.
- 1994 – present: Member, Pan-Hellenic Association of Bioscientists, Greece.

COMMUNICATIONS

I have presented my work orally (19) or in posters (34) in 53 international conferences and seminars outside the Institute/ Department. Recent presentations from my lab include:

- Petsalaki E and **Zachos G.** Chk1 activates Src to promote actin patch formation and prevent DNA breakage. 4th Annual Cell Biology Virtual Event, Labroots, 25 September 2020. (*Poster accepted*)
- Petsalaki E and **Zachos G.** Chmp4c promotes kinetochore-microtubule attachment and chromosome alignment. 4th Annual Cell Biology Virtual Event, Labroots, 25 September 2020. (*Poster accepted*)
- Petsalaki E and **Zachos G.** A novel signaling pathway prevents chromatin breakage by regulating the abscission checkpoint in human cells. EMBO Workshop, Chemical Biology 2020-Virtual, 3-5 September 2020. (*Poster accepted*)
- Petsalaki E and **Zachos G.** Chk1 is required for optimal spindle formation. EMBO Workshop, Chemical Biology 2020-Virtual, September 2020. (*Poster accepted*)
- **Zachos G.** Bridge-building between chromosomes: preventing chromatin breakage in cytokinesis. Webinar on Cell Science and 3rd Global Summit on Stem Cell Biology & Regenerative Medicine, July 2020. (*Oral presentation*)

- **Zachos G.** Avoiding chromatin bridge-breakage in cytokinesis. 4th International Cancer Conference- Cancer Virtual 2020, July 2020. (*Oral presentation*)
- Petsalaki E and **Zachos G.** The ESCRT protein Chmp4c binds microtubules and is required for proper kinetochore-microtubule attachments in mitotic cells. International Conference on Oncology and Cancer Research, Webinar, June 2020. (*Poster*)
- Petsalaki E, Lilla S, Zavivan S and **Zachos G.** Novel mechanisms of mitotic spindle formation. Cell & Developmental Biology Virtual Meeting, June 2020. (*Poster*)
- Petsalaki E, Lilla S, Zavivan S and **Zachos G.** Chk1 is required for optimal spindle formation. 40th Euro Congress on Cancer Science and Therapy, Webinar, May 2020. (*Poster*)
- **Zachos G.** Building bridges in cytokinesis. Fondation Santé Fellows Symposium, Athens, Greece. May 2019. (*Oral presentation*)

A full communications list is available on request.

RESEARCH FUNDING

I have attracted approximately €919,400 funding from competitive sources for my lab in the Department of Biology of the University of Crete. More specifically:

- Title: “Investigating mechanisms that prevent chromatin bridges from breaking in cytokinesis”. Amount: €180,000. From: 2021 until 2024 (*estimated*). Funding body: Hellenic Foundation for Research and Innovation (H.F.R.I.): Research Projects to Support Post-Doctoral Researchers (2nd Call). Department of Biology, University of Crete. *Role: Receiving laboratory, Advisor.*
- Title: “Investigating a novel role for Chk1 protein in mitotic spindle formation and function”. Amount: €26,400. From: 16-11-2019 until 15-11-2021. Funding body: State Scholarships Foundation (IKY), Greece: Reinforcement of Postdoctoral Researchers - 2nd Cycle” (MIS-5033021). Department of Biology, University of Crete. *Role: Supervising Professor.*
- Title: “Investigating mechanisms that prevent chromatin bridge breakage in cytokinesis”. Amount: €50,000. From: 1-2-2019 until 31-1-2021. Funding body: Fondation Santé. Department of Biology, University of Crete. *Role: Grant Holder.*
- Title: “Chmp4c is a novel kinetochore component that is involved in kinetochore-microtubule attachment and spindle checkpoint signalling”. Amount: €40,000. From 1-3-2017 until 28-2-2019. Funding body: Fondation Santé. Department of Biology, University of Crete. *Role: Grant Holder.*
- Title: “Mechanisms that prevent tetraploidization and DNA breakage in cells with chromatin bridges”. Grant Reference: 15-0008. Amount: £163,900 (~€210,000). From:

1-1-2015 until 31-12-2017. Funding body: Worldwide Cancer Research (formerly A.I.C.R.). Department of Biology, University of Crete. *Role: Grant Holder.*

- Title: “Chk1 phosphorylates BLM helicase to protect against anaphase bridges”. Amount: €54,000. From: 1-1-2015 until 31-12-2017. Funding body: Bodossaki Foundation. Fellowship for Postdoctoral Researchers for research in Greece in the field of Carcinogenesis. Department of Biology, University of Crete. *Role: Receiving laboratory.*
- Title: “Chk1 protects against chromatin bridges in anaphase”. Amount: €40,000. From 1-1-2014 until 31-12-2015. Funding body: Fondation Santé. Department of Biology, University of Crete. *Role: Grant Holder.*
- Title: “Chk1 is required for correction of merotelic kinetochore attachments during mitosis”. Grant Reference: 11-0058. Amount: £128,500 (~€164,500). From: 1-1-2011 until 31-3-2014. Funding body: Association for International Cancer Research (A.I.C.R.). Department of Biology, University of Crete. *Role: Grant Holder.*
- Title: “Genetic and molecular analysis of Chk1 functions in the mitotic spindle checkpoint and cytokinesis”. Grant Reference: 08-0525. Amount: £118,000 (~€151,000). From 1-10-2008 until 30-9-2011. Funding body: Association for International Cancer Research (A.I.C.R.). Department of Biology, University of Crete. *Role: Grant Holder.*
- Title: “Generation of a chemical genetic system for the analysis of Chk1 protein functions in the mitotic spindle checkpoint and cytokinesis”. Amount: €3,500. From: 1-11-2008 until 30-10-2010. Funding body: University of Crete Special Account for Research. Department of Biology, University of Crete. *Role: Grant Holder.*

Other Research Funding:

- Title: “Genetic analysis of the role and mechanism of Chk1 regulation in the replication and DNA damage checkpoints and in determining tumour cell survival in response to anti-cancer drugs”. Grant Reference: 03-0125. Amount: £133,494. From 1-4-2003 until 31-3-2006. Funding body: Association for International Cancer Research (A.I.C.R.). The Beatson Institute for Cancer Research, Glasgow, U.K. *Role: Co-applicant.*

NUMBER OF PEER-REVIEWED PUBLICATIONS IN THE FOLLOWING CATEGORIES/ F1000Prime Recommendations/ CITATIONS

| | |
|---|---|
| First Author Publications | 14 |
| Last Author Publications | 13 |
| Total Publications | 36 |
| Book Chapters | 3 |
| Number of papers recommended by F1000Prime | 6 |
| Citations (until 5/8/2020; Source: Google Scholar) | 1739 (self-citations are excluded) |

PUBLICATIONS IN PEER-REVIEWED JOURNALS

1. Petsalaki E and **Zachos G.** DNA damage response proteins regulating mitotic cell division: double agents preserving genome stability. *The FEBS Journal* 287: 1700-1721, 2020.
Invited Submission
2. Petsalaki E and **Zachos G.** Building bridges between chromosomes: novel insights into the abscission checkpoint. *Cellular and Molecular Life Sciences* 76: 4291-4307, 2019.
Invited Submission
3. Petsalaki E and **Zachos G.** CHMP4C: A novel regulator of the mitotic spindle checkpoint. *Molecular & Cellular Oncology* 5: e1445944, 2018.
doi.org/10.1080/23723556.2018.1445944
Invited Submission
4. Petsalaki E, Dandoulaki M and **Zachos G.** Chmp4c is required for stable kinetochore-microtubule attachments. *Chromosoma* 127: 461-473, 2018.
5. Dandoulaki M, Petsalaki E, Sumpton D, Zanivan S and **Zachos G.** Src activation by Chk1 promotes actin patch formation and prevents chromatin bridge breakage in cytokinesis. *Journal of Cell Biology* 217: 3071-3089, 2018.
F1000Prime. Included in The Journal of Cell Biology Special Collection on Chromosome Organization and Segregation, 2019.
6. Petsalaki E and **Zachos G.** Novel ESCRT functions at kinetochores. *Aging (Albany NY)* 10: 299-300, 2018.
Invited Submission
7. Petsalaki E, Dandoulaki M and **Zachos G.** The ESCRT protein Chmp4c regulates mitotic spindle checkpoint signaling. *Journal of Cell Biology* 217: 861-876, 2018.
8. Petsalaki E and **Zachos G.** Clks 1, 2 and 4 prevent chromatin breakage by regulating the Aurora B-dependent abscission checkpoint. *Nature Communications* 7: e11451, 2016.
doi 10.1038/10.1038/ncomms11451. *F1000Prime.*
9. **Zachos G.** TIPs for shaping Aurora B activity. *Nature Chemical Biology* 12: 204-205, 2016.
Invited Submission
10. Petsalaki E, Dandoulaki M, Morrice N and **Zachos G.** Chk1 protects against chromatin bridges by constitutively phosphorylating BLM serine 502 to inhibit BLM degradation. *Journal of Cell Science* 127: 3902-3908, 2014.
11. Petsalaki E and **Zachos G.** Chk2 prevents mitotic exit when the majority of kinetochores are unattached. *Journal of Cell Biology* 205: 339-356, 2014.
12. Petsalaki E and **Zachos G.** Chk1 and Mps1 jointly regulate correction of merotelic kinetochore attachments. *Journal of Cell Science* 126: 1235-1246, 2013.

13. Petsalaki E, Akoumianaki T, Black EJ, Gillespie DA and **Zachos G**. Phosphorylation at serine 331 is required for Aurora B activation. *Journal of Cell Biology* 195: 449-466, 2011.
14. Rainey MD, Black EJ, **Zachos G** and Gillespie DAF. Chk2 is required for optimal mitotic delay in response to irradiation-induced DNA damage incurred specifically in G2 phase. *Oncogene* 27: 896-906, 2008.
15. Bourke E, Merdes A, Cuffe L, Dodson H, **Zachos G**, Walker M, Gillespie DA and Morrison C. Chk1 controls DNA damage-induced centrosome amplification. *EMBO Reports* 8: 603-609, 2007.
16. **Zachos G** and Gillespie DAF. Exercising restraints: Role of Chk1 in regulating the onset and progression of unperturbed mitosis in vertebrate cells. *Cell Cycle* 6: 810-813, 2007.
17. **Zachos G**, Black EJ, Walker M, Scott M, Vagnarelli P, Earnshaw WC and Gillespie DA. Chk1 is required for spindle checkpoint function. *Developmental Cell* 12: 247-260, 2007. *F1000Prime. Comment in Dev Cell* 12: 167-168, 2007.
18. Robinson H, Jones R, Walker M, **Zachos G**, Brown R, Cassidy J and Gillespie DAF. Chk1-dependent slowing of S-phase progression protects DT40 B-lymphoma cells against killing by the nucleoside analogue 5-Fluoruracil. *Oncogene* 25: 5359-5369, 2006. *F1000Prime*.
19. Petermann E, Maya-Mendoza A, **Zachos G**, Gillespie DAF, Jackson DA and Caldecott KW. Chk1 requirement for high global rates of replication fork progression during normal vertebrate S phase. *Molecular and Cellular Biology* 26: 3319-3326, 2006. *F1000Prime*.
20. **Zachos G**, Rainey MD and Gillespie DAF. Chk1-dependent S-M checkpoint delay in vertebrate cells is linked to maintenance of viable replication structures. *Molecular and Cellular Biology* 25: 563-574, 2005.
21. **Zachos G**, Rainey M and Gillespie DAF. Lethal errors in checkpoint control. Life without Chk1. *Cell Cycle* 2: 13-15, 2003.
22. Koffa MD, Kean J, **Zachos G**, Rice SA and Clements JB. CK2 protein kinase is stimulated and redistributed by functional Herpes Simplex Virus ICP27 protein. *Journal of Virology* 77: 4315-4325, 2003.
23. **Zachos G**, Rainey MD and Gillespie DAF. Chk1-deficient tumour cells are viable but exhibit multiple checkpoint and survival defects. *The EMBO Journal* 22: 713-723, 2003. *F1000Prime*.
24. **Zachos G**, Koffa M, Preston CM, Clements JB and Conner J. Herpes Simplex Virus type 1 blocks the apoptotic host cell defence mechanisms that target Bcl-2 and manipulates activation of the p38 Mitogen Activated Protein Kinase to improve viral replication. *Journal of Virology* 75: 2710-2728, 2001.

25. Katsama A, Sourvinos G, **Zachos G** and Spandidos DA. Allelic loss of the BRCA1, BRCA2 and TP53 loci in human sporadic breast carcinoma. *Cancer letters* 150: 165-170, 2000.
26. **Zachos G**, Clements B and Conner J. Herpes simplex virus type 1 infection stimulates p38/ c-Jun N-terminal mitogen-activated protein kinase pathways and activates transcription factor AP-1. *Journal of Biological Chemistry* 274: 5097-5103, 1999.
27. **Zachos G**, Koumantaki E, Varelzidis A and Spandidos DA. Loss of heterozygosity of particular chromosome regions in human psoriatic lesions. *British Journal of Dermatology* 139: 974-977, 1998.
28. **Zachos G** and Spandidos DA. Transcriptional regulation of the c-H-ras1 gene by the P53 protein is implicated in the development of human endometrial and ovarian tumours. *Oncogene* 16: 3013-3017, 1998.
29. **Zachos G** and Spandidos DA. Transcriptional regulation of the H-ras1 proto-oncogene by DNA binding proteins: mechanisms and implications in human tumorigenesis. *Gene Therapy and Molecular Biology* 1: 629-639, 1998.
30. Varras M, **Zachos G** and Spandidos DA. Endometrial carcinoma in a breast cancer patient treated with tamoxifen: activation of K-ras proto-oncogene. *Oncology Reports* 4: 1045-1046, 1997.
31. **Zachos G** and Spandidos DA. Expression of *ras* proto-oncogenes: regulation and implications in the development of human tumors. *Critical Reviews in Oncology and Hematology* 26: 65-75, 1997.
32. **Zachos G**, Varras M, Koffa M, Ergazaki M and Spandidos DA. Glucocorticoid and estrogen receptors have elevated activity in human endometrial and ovarian tumors as compared to the adjacent normal tissues and recognize elements of the H-ras proto-oncogene. *Japanese Journal for Cancer Research* 87: 916-922, 1996. (continued by *Cancer Science*).
33. **Zachos G**, Varras M, Koffa M, Ergazaki M and Spandidos DA. The association of the H-ras oncogene and steroid hormone receptors in gynecological cancer. *Journal of Experimental Therapeutics and Oncology* 1: 335-341, 1996.
34. Zoumpourlis V, **Zachos G**, Halazonetis TD, Ergazaki M and Spandidos DA. Binding of wild-type and mutant forms of p53 protein from human tumors to a specific DNA sequence of the first intron of the H-ras oncogene. *International Journal of Oncology* 7: 1035-1041, 1995.
35. Spandidos DA, Zoumpourlis V, **Zachos G**, Toas SH and Halazonetis TD. Specific recognition of a transcriptional element within the human H-ras proto-oncogene by the p53 tumor suppressor. *International Journal of Oncology* 7: 1029-1034, 1995.
36. **Zachos G**, Zoumpourlis V, Sekeris CE and Spandidos DA. Binding of the glucocorticoid and estrogen receptors to the human H-ras oncogene sequences. *International Journal of Oncology* 6: 595-600, 1995.

BOOK CHAPTERS

1. **Zachos G**. Regulating cytokinesis. *In: Encyclopedia of Cell Biology*, Bradshaw R and Stahl P (eds), Waltham, MA: Academic Press (Elsevier, UK), Vol 3: pp. 494-503, 2016.
2. Rainey MD, **Zachos G** and Gillespie DAF. Analysing the DNA damage and replication checkpoints in DT40 cells. *In: Reviews and Protocols in DT40 Research*, Buerstedde J-M and Takeda S (eds). Springer, Netherlands, pp 107-117, 2006.
Subcellular Biochemistry 40: 107-117, 2006.
3. Spandidos DA, Kiaris H, Sourvinos G, **Zachos G** and Ergazaki M. The role of *ras* oncogenes and p53 onco-suppressor gene in human cancer. *In: Proceedings of the Balkan Congress of Oncology*, Antypas G (ed). Monduzzi Editore S.p.A., Bologna (Italy), pp 533-538, 1996.

APPENDIX – Citations Index

Updated on 5/8/2020. Source: Google Scholar. Self-citations are excluded

| <i>Publications</i> | <i>Number of citations</i> |
|---------------------------------------|----------------------------|
| FEBS J 287: 1700-1721, 2020 | 4 |
| Cell Mol Life Sci 76: 4291-4307, 2019 | 5 |
| Mol Cell Oncol 5: e1445944, 2018 | 2 |
| Chromosoma 127: 461-473, 2018 | 3 |
| J Cell Biol 217: 3071-3089, 2018 | 5 |
| Aging 10: 299-300, 2018 | 1 |
| J Cell Biol 217: 861-876, 2018 | 5 |
| Nat Commun 7: e11451, 2016 | 27 |
| Nat Chem Biol 12: 204-205, 2016 | 2 |
| J Cell Sci 127: 3902-3908, 2014 | 13 |
| J Cell Biol 205: 339-356, 2014 | 14 |
| J Cell Sci 126: 1235-1246, 2013 | 10 |
| J Cell Biol 195: 449-466, 2011 | 74 |
| Oncogene 27: 89-906, 2008 | 41 |
| EMBO Reports 8: 603-609, 2007 | 123 |
| Cell Cycle 6: 810-813, 2007 | 30 |
| Dev Cell 12: 247-260, 2007 | 259 |
| Mol Cell Biol 26: 3319-3326, 2006 | 182 |
| Oncogene 25: 5359-5369, 2006 | 50 |
| Subcellular Biochem 40: 107-117, 2006 | 6 |
| Mol Cell Biol 25: 563-574, 2005 | 97 |
| Cell Cycle 2: 13-15, 2003 | 7 |
| J Virol 77: 4315-4325, 2003 | 44 |
| EMBO J 22: 713-723, 2003 | 279 |
| J Virol 75: 2710-2728, 2001 | 79 |
| Cancer Lett 150: 165-170, 2000 | 35 |
| J Biol Chem 274: 5097-5103, 1999 | 166 |
| Gene Ther Mol Biol 1: 629-639, 1998 | 2 |
| Br J Dermatol 139: 974-977, 1998 | 7 |
| Oncogene 16: 3013-3017, 1998 | 27 |

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|--|-------------|
| Oncol Rep 4: 1045-1046, 1997 | 3 |
| Crit Rev Oncol Hematol 26: 65-75, 1997 | 96 |
| J Exp Ther Oncol 1: 335-341, 1996 | 6 |
| Jpn J Cancer Res 87: 916-922, 1996 | 18 |
| Int J Oncol 7: 1035-1041, 1995 | 3 |
| Int J Oncol 7: 1029-1034, 1995 | 8 |
| Int J Oncol 6: 595-600, 1995 | 6 |
| Total | 1739 |