

### **Education and Position**

2002-Assistant professor in Pathology, Dept. of Biomedical Sciences, Section of Pathology, Unit of Oncology and Molecular Pathology, University of Cagliari

2000-2002– Fellowship from Fondazione Italiana Ricerca sul Cancro (F.I.R.C.). Title of the project “*Inhibitory effect of thyroid hormone on chemically induced liver carcinogenesis*” conducted at the Department of Toxicology, Oncology and Pathology section, University of Cagliari.

1999-Post-graduate Specialization in Clinical Pathology, University of Sassari

1994-Master’s Degree in Biological Sciences, Faculty of Mathematical, Physical and Natural Sciences, University of Cagliari

### **Main research lines**

- Identification of the molecular mechanisms associated with hepatocyte proliferation (compensatory regeneration and direct hyperplasia)
- Identification of the molecular mechanisms associated with hepatocarcinogenesis in animal models and hepatoma cell lines
- Identification of the role of lipoic acid on hepatoma cell lines

### **Teaching activity**

2004-05 General Pathology in Diploma Universitario in “Scienze Ortottiche”, Faculty of Medicine, University of Cagliari

2004-05 Theoretical and practical course (ADO) “Analysis of cell cycle protein expression during hepatocyte proliferation”, in Master’s Degree in “Medicina e Chirurgia”, Faculty of Medicine

2005-06-General Pathology in Bachelor’s Degree in “Scienze Ortottiche”, Faculty of Medicine, University of Cagliari

2006-07-General Pathology in Bachelor’s Degree in “Scienze Ortottiche”, Faculty of Medicine, University of Cagliari

2007-08-General Pathology in Bachelor’s Degree in “Ostetricia” and “Assistenza Sanitaria”, Faculty of Medicine, University of Cagliari

2008-09-General Pathology in Bachelor’s Degree in “Ostetricia” and “Assistenza Sanitaria”, Faculty of Medicine, University of Cagliari

2009-10-General Pathology in Bachelor’s Degree in “Ostetricia” and “Assistenza Sanitaria”, Faculty of Medicine, University of Cagliari

- 2011-12-General Pathology in Bachelor's Degree in "Ostetricia", Faculty of Medicine, University of Cagliari
- 2012-13-General Pathology in Bachelor's Degree in "Ostetricia", Faculty of Medicine, University of Cagliari
- 2014-15-General Pathology in Bachelor's Degree in "Ostetricia", "Fisioterapia", "Riabilitazione psichiatrica", "Assistenza Sanitaria", "Tecniche di radiologia medica per immagini e radioterapia", Faculty of Medicine, University of Cagliari  
Clinical Pathology in Bachelor's Degree in "Ostetricia," Faculty of Medicine, University of Cagliari
- 2015-16-General Pathology in Bachelor's Degree in "Ostetricia", "Fisioterapia", "Educazione professionale", "Assistenza Sanitaria", "Tecniche di radiologia medica per immagini e radioterapia", Faculty of Medicine, University of Cagliari  
Clinical Pathology in Bachelor's Degree in "Ostetricia," Faculty of Medicine, University of Cagliari
- 2016-17-General Pathology in Bachelor's Degree in "Ostetricia", "Fisioterapia", "Riabilitazione psichiatrica", "Assistenza Sanitaria", "Tecniche di radiologia medica per immagini e radioterapia", Faculty of Medicine, University of Cagliari  
Clinical Pathology in Bachelor's Degree in "Ostetricia," Faculty of Medicine, University of Cagliari
- 2017-18-General Pathology in Bachelor's Degree in "Ostetricia", "Educazione Professionale", "Assistenza Sanitaria", "Tecniche di radiologia medica per immagini e radioterapia", "Tecniche della prevenzione nell'ambiente e nei luoghi di lavoro", Faculty of Medicine, University of Cagliari
- 2018-19-General Pathology in Bachelor's Degree in "Ostetricia", "Educazione Professionale", "Assistenza Sanitaria", "Tecniche della prevenzione nell'ambiente e nei luoghi di lavoro", Faculty of Medicine, University of Cagliari
- 2019-20-General Pathology in Bachelor's Degree in "Ostetricia", "Tecniche di radiologia medica per immagini e radioterapia", "Assistenza Sanitaria", "Tecniche della prevenzione nell'ambiente e nei luoghi di lavoro", Faculty of Medicine, University of Cagliari
- 2020-21-General Pathology in Bachelor's Degree in "Ostetricia", "Tecniche di radiologia medica per immagini e radioterapia", "Assistenza Sanitaria", "Tecniche della prevenzione nell'ambiente e nei luoghi di lavoro" and "Educazione professionale" Faculty of Medicine, University of Cagliari
- 2021-22-General Pathology in Bachelor's Degree in "Ostetricia", "Tecniche di radiologia medica per immagini e radioterapia", "Assistenza Sanitaria", "Tecniche della prevenzione nell'ambiente e nei luoghi di lavoro" and "Educazione professionale" Faculty of Medicine, University of Cagliari
- 2022-23-General Pathology in Bachelor's Degree in "Ostetricia", "Tecniche di radiologia medica per immagini e radioterapia", "Assistenza Sanitaria", "Tecniche della prevenzione nell'ambiente e nei luoghi di lavoro" and "Educazione professionale" Faculty of Medicine, University of Cagliari

2023-24-General Pathology in Bachelor's Degree in "Tecniche di radiologia medica per immagini e radioterapia", "Assistenza Sanitaria", "Tecniche della prevenzione nell'ambiente e nei luoghi di lavoro" and "Educazione professionale" Faculty of Medicine, University of Cagliari

2024-25-General Pathology in Bachelor's Degree in "Tecniche di radiologia medica per immagini e radioterapia", "Assistenza Sanitaria", "Tecniche della prevenzione nell'ambiente e nei luoghi di lavoro", "Ostetricia" and "Tecniche di riabilitazione psichiatrica" Faculty of Medicine, University of Cagliari

### **Publications**

1. M. Menegazzi, A. Carcereri, H. Suzuki, H. Shinozuka, M. Pibiri, R. Piga, A. Columbano, G.M. Ledda-Columbano. Liver cell proliferation induced by nafenopin and cyproterone acetate is not associated with increases in activation of transcription factors NF-kB and AP-1 or expression of tumor necrosis factor-alfa. *Hepatology*, 25:585-592, 1997.
2. A. Columbano, G.M. Ledda-Columbano, M. Pibiri, R.Piga, H.Shinozuka, V.De Luca, F.Cerignoli, M.Tripodi. Increased expression of c-fos, c-jun and LRF-1 is not required for in vivo priming of hepatocytes by the mitogen TCPOBOP. *Oncogene*, 14:857-863, 1997.
3. G.M. Ledda-Columbano, A. Perra, R. Piga, M. Pibiri, Loi R., H. Shinozuka, A. Columbano. Cell proliferation induced by 3,3'-5-triiodo-L-thyronine is associated with a reduction in the number of preneoplastic hepatic lesions. *Carcinogenesis*, 20 (12): 2299-2304, 1999
4. G.M. Ledda-Columbano, M. Pibiri, R. Loi, A. Perra, H. Shinozuka, A. Columbano. Early increase in cyclin D1 expression and accelerated entry of mouse hepatocytes into S phase after administration of the mitogen TCPOBOP. *American Journal of Pathology*, 156 (1): 91-97, 2000
5. G.M. Ledda-Columbano, M. Pibiri, A. Perra, R. Piga, R. Loi, M. Dore, H. Shinozuka, A. Columbano. Ciprofibrate and triiodothyronine do not suppress in vivo induction of placental glutathione S-transferase expression in rat hepatocytes. *Cancer Letters*, 151: 153-159, 2000
6. M. Pibiri, G.M. Ledda-Columbano, C. Cossu, G. Simbula, M. Menegazzi, H. Shinozuka, A. Columbano. Cyclin D1 is an early target in hepatocyte proliferation induced by thyroid hormone (T3). *The FASEB J.*, 15: 1006-1013, 2001
7. A. Columbano, G.M. Ledda-Columbano, M. Pibiri, D. Concas, J.K. Reddy, M.S. Rao. Peroxisome proliferator activated receptor-alpha -/- mice show enhanced hepatocyte proliferation in response to the hepatomitogen 1,4-bis[2-(3,5-dichloropyridyloxy)]benzene, a ligand of constitutive androstane receptor. *Hepatology*,34:262-266, 2001
8. G.M. Ledda-Columbano, M. Pibiri, D. Concas, C. Cossu, M. Tripodi, A. Columbano. Loss of cyclin D1 does not inhibit the proliferative response of mouse liver to mitogenic stimuli. *Hepatology*, 36:1098-1105, 2002
9. G.M. Ledda-Columbano, M. Pibiri, D. Concas, F. Molotzu, G. Simbula, C. Cossu and A. Columbano. Sex difference in the proliferative response of mouse hepatocytes to treatment with the CAR ligand, TCPOBOP. *Carcinogenesis*,Vol 24, NO. 7 : 1-7, 2003
10. G. Simbula, M. Pibiri, L. Sanna, C. Cossu, F. Molotzu, A. Columbano, G.M. Ledda-Columbano. The peroxisome proliferator BR931 Kills FaO cells by p53-dependent apoptosis. *Life Sciences*, 75 (3):271-268, Jun 4, 2004

11. Ledda-Columbano G. M., Pibiri M., Cossu C., Molotzu F., Locker J., Columbano A. Aging does not reduce the hepatocyte proliferative response of mice to the primary mitogen TCPOBOP. *Hepatology*, 40 (4): 981-8, Oct 2004
12. Ledda-Columbano GM, Pibiri M, Molotzu F, Cossu C, Sanna L, Simbula G, Perra A, Columbano A. Induction of hepatocyte proliferation by retinoic acid. *Carcinogenesis*, 25 (11): 2061-6 , Nov 2004
13. Ledda-Columbano GM, Perra A, Pibiri M, Molotzu F and Columbano A. Induction of pancreatic acinar cell proliferation by thyroid hormone. *Journal of Endocrinology*, 185, 393-399, 2005
14. Columbano A, Ledda-Columbano GM, Pibiri M, Cossu C, Menagazzi M, Moore DD, Huang W, Tian J, Locker J. GADD45 $\beta$  is induced through a CAR-dependent TNF-independent pathway in murine liver hyperplasia. *Hepatology*, 42, 1118-1126, 2005
15. Ledda-Columbano GM, Molotzu F, Pibiri M, Cossu C, Perra A, Columbano A. Thyroid hormone induces cyclin D1 nuclear traslocation and DNA synthesis in adult rat cardiomyocytes. *FASEB J.* ,20, 87-94, 2006
16. Columbano A, Pibiri M, Deidda M, Cossu C, Scanlan TS, Chiellini G, Muntoni S, Ledda-Columbano GM. The thyroid hormone receptor- $\beta$  agonist GC-1 induces cell proliferation in rat liver and pancreas. *Endocrinology* 147 (7): 3211-3218, 2006
17. Simbula G, Columbano A, Ledda-Columbano GM, Sanna L, Deidda M, Diana A, Pibiri M. Increased ROS generation and p53 activation in alpha-lipoic acid-induced apoptosis of hepatoma cells. *Apoptosis*. Jan;12(1):113-23, 2007
18. Perra A, Pibiri M, Sulas P, Simbula G, Ledda-Columbano GM, Columbano A. Alpha-lipoic acid promotes the growth of rat hepatic preneoplastic lesions in the coline-deficient model. *Carcinogenesis*, 2007 Jan;29(1):161-8.
19. Columbano A, Simbula M, Pibiri M, Perra A, Deidda M, Locker J, Pisanu A, Uccheddu A, Ledda-Columbano GM. Triiodothyronine stimulates hepatocyte proliferation in two models of impaired liver regeneration. *Cell Proliferation*, 2008 Jun;41(3):521-31.
20. Columbano A, Simbula M, Pibiri M, Perra A, Pisanu A, Uccheddu A, Ledda-Columbano GM. Potential utility of xenobiotic mitogens in the context of liver regeneration in the elderly and living-related transplantation. *Lab Investigation*, 2008 Apr;88(4):408-15.
21. Perra A, Simbula G, Simbula M, Pibiri M, Kowalik MA, Sulas P, Cocco MT, Ledda- Columbano GM, Columbano A. Thyroid hormone (T3) and TRbeta agonist GC-1 inhibit/reverse nonalcoholic fatty liver in rats. *FASEB J.* Aug; 22(8):2981-9, 2008
22. Perra A, Kowalik MA, Pibiri M, Ledda-Columbano GM, Columbano A. Thyroid hormone receptor ligands induce regression of rat preneoplastic liver lesions causing their reversion to a differentiated phenotype. *Hepatology*. Apr; 49(4):1287-96, 2009
23. Kowalik MA, Perra A, Pibiri M, Cocco MT, Samarut J, Plateroti M, Ledda-Columbano GM, Columbano A. TRbeta is the critical thyroid hormone receptor isoform in T3-induced proliferation of hepatocytes and pancreatic acinar cell. *J Hepatol.* Oct;53(4):686-92, 2010
24. Kowalik MA, Saliba C, Pibiri M, Perra A, Ledda-Columbano GM, Sarotto I, Ghiso E, Giordano S, Columbano A. Yes-associated protein regulation regulation of adaptive liver enlargement and HCC development. *Hepatology*. Jun;53(6):2086-96, 2011

25. Leoni VP, Ledda-Columbano GM, Pibiri M, Saliba C, Perra A, Kowalik MA, Grober OM, Ravo M, Weisz A, Locker J, Ghiso E, Giordano S, Columbano A. Expression of C-Jun is Not Mandatory for Mouse Hepatocyte Proliferation Induced by Two Nuclear Receptor Ligands: Tcprobop and T3. *J Hepatol.* Nov;55(5):1069-78, 2011.
26. Zedda G, Simbula G, Begala M, Pibiri M, Floris C, Casu M, Casu L, Tocco G. Mild Synthetic Approach to Novel Indole-1-Carbinoids and Preliminary Evaluation of Their Cytotoxicity in Hepatocarcinoma Cells. *Arch Pharm (Weinheim).* Mar;345(3):195-202, 2012
27. Pibiri M, Sulas P, Leoni VP, Perra A, Kowalik MA, Cordella A, Saggese P, Nassa G, Ravo M. Global gene expression profile of normal and regenerating liver in young and old mice. *Age.* June;37(3):9697, 2015
28. Szydłowska M, Pibiri M, Perra A, Puliga E, Mattu S, Ledda-Columbano GM, Columban A, Leoni VP. The Thyromimetic KB2115 (Eprotirome) Induces Rat Hepatocyte Proliferation. *Gene Expr Jul 7;17(3):207-218, 2017*
29. Pireddu R, Pibiri M, Valenti D, Sinico C, Fadda AM, Simbula G, Lai F. A novel lactoferrin-modified stealth liposome for hepatoma-delivery of triiodothyronine. *Int J Pharm.* Feb 15;537(1-2):257-267, 2018
30. Pibiri M, Leoni VP, Atzori L. Heme oxygenase-1 inhibitor tin-protoporphyrin improves liver regeneration after partial hepatectomy. *Life Sci.* Jul 1;204:9-14, 2018
31. Pibiri M. Liver regeneration in aged mice: new insights. *Aging (Albany NY).* Aug 28, 2018 doi: 10.18632/aging/101524
32. Tronci L, Caria P, Frau DV, Liggi S, Piras C, Murgia F, Santoru ML, Pibiri M, Deiana M, Griffin JL, Vanni R, Atzori L. Crosstalk between Metabolic Alterations and Altered Redox Balance in PTC-Derived Cell Lines. *Metabolites.* Feb 1;9(2), 2019 doi: 10.3390/metabo9020023
33. Pibiri M, Sulas P, Camboni T, Leoni VP, Simbula G.  $\alpha$ -Lipoic acid induces Endoplasmic Reticulum stress-mediated apoptosis in hepatoma cells. *Sci Rep.* Apr 28; 10(1):7139, 2020
34. Piras C, Pibiri M, Leoni VP, Cabras F, Restivo A, Griffin JL, Fanos V, Mussap M, Zorcolo L, Atzori L. Urinary <sup>1</sup>H-NMR Metabolic Signature in Subjects Undergoing Colonoscopy for Colon Cancer Diagnosis *Appl. Sci.* Aug 5;10(16), 5401, 2020
35. Piras C, Conte S, Pibiri M, Rao G, Muntoni S, Leoni VP, Finco G, Atzori L. Metabolomics and psychological features in fibromyalgia and electromagnetic sensitivity. *Sci Rep.* 2020;10(1):20418. doi: 10.1038/s41598-020-76876-8.
36. Piras C, Pibiri M, Leoni VP, Balsamo A, Tronci L, Arisci N, Mariotti S, Atzori L. Analysis of metabolomics profile in hypothyroid patients before and after thyroid hormone replacement. *J Endocrinol Invest.* 2021;44(6):1309-1319
37. Murgia F, Giagnoni F, Loreface L, Caria P, Dettori T, D'Alterio MN, Angioni S, Hendren AJ, Caboni P, Pibiri M, Monni G, Cocco E, Atzori L. Sex Hormones as Key Modulators of the Immune Response in Multiple Sclerosis: A Review. *Biomedicines.* 2022 Dec 1;10(12):3107. doi: 10.3390/biomedicines10123107
38. Piras C, Pibiri M, Conte S, Ferranti G, Leoni VP, Liggi S, Spada M, Muntoni S, Caboni P, Atzori L.

Metabolomics analysis of plasma samples of patients with fibromyalgia and electromagnetic sensitivity using GC-MS technique. *Sci Rep.* 2022 Dec 19;12(1):21923. doi: 10.1038/s41598-022-25588-2

39. Pibiri M, Simbula G. Role of the Hippo pathway in liver regeneration and repair: recent advances. *Inflamm Regen.* 2022 Dec 5;42(1):59. doi: 10.1186/s41232-022-00235-5.

40. Loi R, Simbula G, Pibiri M. Molecular Targets of microRNAs during Liver Regeneration after Acute Injury: Recent Advances. *Gene Expr.* 2024; 23(4):336-347. doi: 10.14218/GE.2023.00175.

**I authorise the use of my personal data in compliance with the Italian Personal Data Protection Code - Legislat. Decree no.196 of 30 June 2003, and the European Legislative Decree UE 2016 679.**

