Curriculum vitae CLAUDIA BOCCA

Personal details

Born in Biella, 31/01/1968
Nationality: Italian
Email: claudia.bocca@unito.it
Website:
ORCID ID: 0000-0003-3233-9116; Scopus ID: 6701428929

Educations

1992. Degree in Biological Sciences, University of Torino
1997. PhD in Experimental and Molecular Pathology, University of Torino
1998. Qualification as a Professional Biologist
2001. Post-graduated degree in Clinical Pathology
2001-2003. Post-Doctoral training in Medical Sciences

Professional experiences and current position

10/2022 – Present. Associate Professor of General Pathology, Dept Clinical and Biological Sciences, University of Torino
01/2005-09/2022. Assistant Professor of General Pathology, Dept Clinical and Biological Sciences, University of Torino
2008. Visiting Fellow at Dept Neuroscience, University of Roma Tor Vergata
2003-2004. CoCoCo at Pathological Anatomy of ASO Mauriziano Umberto I of Torino with a role in a national project founded by Compagnia di San Paolo regarding the expression of prognostic factors in thyroid neoplasia.

Participation to Directive Boards of Scientific Societies and/or Institutions:

From 2022. Member of Editorial Board team of the journal "Antioxidants"
From 2022. Guest Editor of the journal Antioxidants for the special issue "The Role of Oxidative Stress in Liver Cancer"

Honors

2001-2002. Post-doc fellowships in Medical Sciences, Post-doc fellowships, University of Torino
1997-2001. Full scholarship from University of Torino to attend the Post Graduate Specialization School in Clinical Pathology, University of Torino.
1992-1996. Full scholarship from the Italian Ministry of Public Education for the PhD course, University of Torino.

Teaching activity:

- General Pathology with Elements of Pathophysiology (9 credits) - Pharmacy, University of Torino
- General Pathology and Medical Terminology (5 credits) - Pharmaceutical Chemistry and Technology, University of Torino
- General Pathology and Immunology (1 credits) - School of Specialization in Hospital Pharmacy, University of Torino
- Molecular and genetic basis of diseases (1 credits) - Pharmaceutical Chemistry and Technology, University of Torino

Research main topics

Pathology/Chronic liver diseases – basic and translational studies: main research interests are related to the analysis of molecular, cellular and tissue events involved in the progression of chronic liver disease (CLD) towards hepatocellular carcinoma (HCC), with a focus on chronic inflammation and phenotypic and functional responses of macrophages during CLD progression. Other recent point of interest is on the identification of new drug-delivery system to improve/modulate the uptake of new liposome formulations by liver cancer cells and human monocytic cells.

***Main projects as PI*:**

2012. Collaboration with Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta: "Le terre rare: una nuova generazione di promotori di crescita?" (IZS PLV 22/12 RC - BOCC01AE13)
2009. Ricerca Sanitaria Finalizzata, regione Piemonte founds
2008. Ricerca Sanitaria Finalizzata, regione Piemonte founds
2005-2008, 2012, 2016-2021: Local Research founds, University of Torino

Bibliometry (1993-present)

h-index 24

Publications

1. Gadoni E, Olivero A, Miglietta A, **Bocca C**, Gabriel L, Cytoskeletal modifications induced by 4-hydroxynonenal, Cytotechnology 1993;1: S62-64.
2. Gadoni E, Gabriel L, Olivero A, **Bocca C**, Miglietta A. Antimicrotubular effect of calvatic acid and of some related compounds, Cell Biochemistry and Function, 1995;13:231-238.
3. Miglietta A, **Bocca C**, Gadoni E, Gabriel L, Rampa A, Bisi A, Valenti P, Da Re P. Interaction of geiparvarin and related compounds with purified antimicrotubular protein, Anti-Cancer Drug Design 1996; 11:35-48.
4. Miglietta A, Gadoni E, **Bocca C**, Gabriel L. Prooxidant agents induce modifications in the cytoskeletal organisation of fibroblasts, ATLA 1996;24:557-565.
5. Miglietta A, **Bocca C**, Rampa A, Bisi A, Gabriel L. Geiparvarin and derivatives in combination with taxol: effect on microtubular organization in 3T3 fibroblasts, Anti-Cancer Drug Design 1997; 12:607-620.
6. **Bocca C**, Caputo O, Cavalli R, Gabriel L, Miglietta A, Gasco MR. Phagocytic uptake of fluorescent stealth and non-stealth solid lipid nanoparticles, International Journal of Pharmaceutics 1998;175:185-193.
7. **Bocca C.** Taxol: a short history of a promising anticancer drug, Minerva Biotecnologica 1998;10:81-83.
8. Cavalli R, **Bocca C**, Miglietta A, Caputo O, Morel S, Gasco MR. Albumin adsorption on stealth and non-stealth solid lipid nanoparticles, S.T.P. Pharma Sciences 1999;9:183-189.
9. Miglietta A, Cavalli R, **Bocca C**, Gabriel L, Gasco MR. Cellular uptake and cytotoxicity of solid lipid nanospheres (SLN) incorporating doxorubicin or paclitaxel, International Journal of Pharmaceutics 2000;210:61-67.
10. Miglietta A, **Bocca C**, Gabriel L, Rampa A, Bisi A, Valenti P. Antimicrotubular and cytotoxic activity of geiparvarin analogs, alone and in combination with paclitaxel, Cell Biochemistry and Function 2001;19:181-189.
11. **Bocca C**, Gabriel L, Miglietta A. Cytoskeletal-interacting activity of geiparvarin, diethylstilbestrol and conjugates, Chemico-Biological Interactions 2001;137:285-305.
12. Miglietta A, **Bocca C**, Gabriel L. Comparative studies on biological activity of certain microtubule-interacting taxanes, Chemico-Biological Interactions 2002;139:283-299.

13. **Bocca C**, Gabriel L, Bozzo F, Miglietta A. Microtubule-interacting activity and cytotoxicity of the prenylated coumarin ferulenol, Planta Medica 2002;8:1135-1137.
14. Miglietta A, Gabriel L, Appendino G, **Bocca C.** Biological Properties of jatrophane polyesters, new microtubule-interacting agents, Cancer Chemotherapy and Pharmacology 2003;51:67-74.
15. **Bocca C**, Gabriel L, Bozzo F, Miglietta A. A sesquiterpene lactone, costunolide, interacts with microtubule protein and inhibits the growth of MCF-7 cells, Chemico-Biological Interactions 2004;147:79-86.
16. Miglietta A, Panno ML, Bozzo F, Gabriel L, **Bocca C.** Insulin can modulate MCF-7 cell response to paclitaxel, Cancer Letters 2004;209:139-145.
17. Miglietta A, Bozzo F, Gabriel L, **Bocca C.** Microtubule-interfering activity of parthenolide, Chemico-Biological Interactions 2004;149:165-173.
18. Marino G, Motta E, Mosso L, **Bocca C**, Ravarino N, Torchio B. Primary signet ring cell adenocarcinoma of the bladder, Minerva Urol Nefrol 2005;57:125-7.
19. Miglietta A, Bozzo F, **Bocca C**, Gabriel L, Trombetta A, Belotti S, Canuto RA. Conjugated linoleic acid induces apoptosis in MDA-MB-231 breast cancer cells through ERK/MAPK signalling and mitochondrial pathway, Cancer Letters 2006;234:149-57.
20. Miglietta A, Bozzo F, Gabriel L, **Bocca C**, Canuto RA. ERK1/2 and protein phosphatase 2A are involved in the antiproliferative activity of conjugated linoleic acid in MCF-7 cells, British Journal of Nutrition 2006;96:22-27.
21. **Bocca C**, Bozzo F, Gabriel L, Miglietta A. Conjugated linoleic acid inhibits Caco-2 cell growth via ERK-MAPK signaling pathway, Journal of Nutritional Biochemistry 2006;18: 332-340.
22. **Bocca C**, Bozzo F, Francica S, Colombatto S, Miglietta A. Involvement of PPARγ and E-cadherin/β-catenin pathway in the antiproliferative effect of conjugated linoleic acid in MCF-7 cells, International Journal of Cancer 2007;121:248-56.
23. Bozzo F, **Bocca C**, Colombatto S, Miglietta A, Antiproliferative effect of conjugated linoleic acid in Caco-2 cells: involvement of PPARgamma and APC/Beta-catenin pathways, Chemico-Biological Interactions 2007;169:110-121.
24. **Bocca C**, Bozzo F, Martinasso G, Canuto RA, Miglietta A. Involvement of PPARα in the growth inhibitory effect of arachidonic acid on breast cancer cells, British Journal of Nutrition 2008;100:739-750.
25. Bozzo F, Bassignana A, Lazzarato L, Boschi D, Gasco A, **Bocca C**, Miglietta A. Novel nitrooxy derivatives of celecoxib for the regulation of colon cancer cell growth, Chemico-Biological Interactions 2009;182:183-190.
26. **Bocca C**, Bozzo F, Cannito S, Colombatto S, Miglietta A. CLA reduces breast cancer cell growth and invasion through ERα and PI3K/Akt pathways, Chemico-Biological Interactions 2010;183:187-193.
27. **Bocca C.** Anti-cancer effect of CLA: a matter of multiple interactions between signalling pathways involving Src, IGF and PPARγ pathway? Chemico-Biological Interactions 2010;186:252–253.
28. Miglietta A, Toselli M, Ravarino N, Vencia W, Chiecchio A, Bozzo F, Motta M, Torchio B, **Bocca C.** COX-2 expression in human breast carcinomas: correlation with clinicopathological features and prognostic molecular markers, Expert Opinion on Therapeutic Targets 2010;14:655-64.
29. **Bocca C**, Bozzo F, Bassignana A, Miglietta A. Antiproliferative Effect of a Novel Nitro-oxy Derivative of Celecoxib in Human Colon Cancer Cells: Role of COX-2 AND Nitric Oxide, Anticancer Research 2010;30:2659-66.
30. **Bocca C**, Bozzo F, Bassignana A, Miglietta A. Antiproliferative effects of COX-2 inhibitor celecoxib on human breast cancer cell lines, Molecular and Cellular Biochemistry 2011;350:59-70.
31. **Bocca C**, Bozzo F, Cannito S, Parola M, Miglietta A. Celecoxib inactivates epithelial-mesenchymal transition stimulated by hypoxia and/or epidermal growth factor in colon cancer cells, Molecular Carcinogenesis 2012;51:783-795.

32. **Bocca C**, Bozzo F, Ievolella M, Miglietta A. A novel nitro-oxy substituted analogue of rofecoxib reduces human colon cancer cell growth, Molecular and Cellular Biochemistry 2012; 361:105-110.
33. Cannito S, Paternostro C, Busletta C, **Bocca C**, Colombatto S, Miglietta A, Novo E, Parola M. Hypoxia, hypoxia-inducible factors and fibrogenesis in chronic liver diseases, Histology and Histopathology, 2014; 29:33-44.
34. **Bocca C**, Ievolella M, Autelli R, Motta M, Mosso L, Torchio B, Bozzo F, Cannito S, Paternostro C, Colombatto S, Parola M, Miglietta A. Expression of COX-2 in human breast cancer cells as a critical determinant of epithelial-mesenchymal transition and invasiveness, Expert Opinion on Therapeutic Targets, 2014;18:121-35.
35. Novo E, Cannito S, Paternostro C, Busletta C, **Bocca C**, Colombatto S, Miglietta A, Parola M. Archives of Biochemistry and Biophysics, 2014; 548C: 20-37.
36. **Bocca C**, Bozzo F, Miglietta A. COX2 Inhibitor NS398 Reduces HT-29 Cell Invasiveness Modulating Signalling Pathways Mediated by EGFR and HIF1-α, Anticancer Research, 2014;34: 1793-1800.
37. Novo E, Cannito S, Morello E, Paternostro C, **Bocca C**, Miglietta A, Parola M. Hepatic myofibroblasts and fibrogenic progression of chronic liver diseases, Histology and Histopathology, 2015;30:1011-32.
38. **Bocca C**, Novo E, Miglietta A, Parola M. Angiogenesis and Fibrogenesis in Chronic Liver Diseases, CMGH Cellular and Molecular Gastroenterology and Hepatology, 2015;1: 477-488.
39. Cannito S, Morello E, **Bocca C**, Foglia B, Benetti E, Novo E, Chiazza F, Rogazzo M, Fantozzi R, Povero D, Sutti S, Bugianesi E, Feldstein AE, Albano E, Collino M, Parola M. Microvesicles released from fat-laden cells promote activation of hepatocellular NLRP3 inflammasome: A pro-inflammatory link between lipotoxicity and non-alcoholic steatohepatitis. PLoS One 2017;1:1-22.
40. Novo E, Villano G, Turato C, Cannito S, Paternostro C, Busletta C, Biasiolo A, Quarta S, Morello E, **Bocca C**, Miglietta A, David E, Sutti S, Plebani M, Albano E, Parola M, Pontisso P. SerpinB3 Promotes Pro-fibrogenic Responses in Activated Hepatic Stellate Cells. Sci Rep. 2017; 7:3420-3430.
41. Morello E, Sutti S, Foglia B, Novo E, Cannito S, **Bocca C**, Rajsky M, Bruzzì S, Abate ML, Rosso C, Bozzola C, David E, Bugianesi E, Albano E, Parola M. Hypoxia-inducible factor 2α drives nonalcoholic fatty liver progression by triggering hepatocyte release of histidine rich glycoprotein. Hepatology 2018;67:2196-2214.
42. Benedetto A, **Bocca C**, Brizio P, Cannito S, Abete MC, Squadrone S. Effects of the rare elements lanthanum and cerium on the growth of colorectal and hepatic cancer cell lines. Toxicol In Vitro 2018;46:9-18.
43. Foglia B, Cannito S, **Bocca C**, Parola M, Novo E. ERK Pathway in Activated, Myofibroblast-Like, Hepatic Stellate Cells: A Critical Signaling Crossroad Sustaining Liver Fibrosis. Int J Mol Sci. 2019;20:2700.
44. Pandolfi L, Frangipane V, **Bocca C**, Marengo A, Tarro Genta E, Bozzini S, Morosini M, D'Amato M, Vitulo S, Monti M, Comolli G, Scupoli , Fattal E, Arpicco S, Meloni F. Hyaluronic Acid–Decorated Liposomes as Innovative Targeted Delivery System for Lung Fibrotic Cells. Molecules 2019;24:3291.
45. Foglia B, Sutti S, Pedicini D, Cannito S , **Bocca C**, Maggiora M, Bevacqua MR, Rosso C, Bugianesi E, Albano E, Novo E, Parola M. Oncostatin M, A Profibrogenic Mediator Overexpressed in Non-Alcoholic Fatty Liver Disease, Stimulates Migration of Hepatic Myofibroblasts. Cells 2019;9: 28.
46. Novo E, **Bocca C**, Foglia B, Protopapa F, Maggiora M, Parola M, Cannito S. Liver fibrogenesis: un update on established and emerging basic concepts. Arch Biochem Biophys. 2020;689:108445.
47. Pierantonelli I, Lioci G, Gurrado F, Giordano DM, Rychlicki C, **Bocca C**, Trozzi L, Novo E, Panera N, De Stefanis C, D'Oria V, Marzioni M, Maroni L, Parola M, Alisi A, Svegliati-Baroni G. HDL cholesterol protects from liver injury in mice with intestinal specific LXRα activation. Liver Int. 2020;40:3127-3139.
48. Foglia B, Novo E, Protopapa F, Maggiora M, **Bocca C**, Cannito S, Parola M. Hypoxia, Hypoxia-Inducible Factors and Liver Fibrosis. Cells. 2021;10:1764.
49. Foglia B, Sutti S, Cannito S, Rosso C, Maggiora M, Autelli R, Novo E, **Bocca C**, Villano G, Ramavath NN, Younes R, Tusa I, Rovida E, Pontisso P, Bugianesi E, Albano E, Parola M. Hepatocyte-Specific Deletion of HIF2α

Prevents NASH-Related Liver Carcinogenesis by Decreasing Cancer Cell Proliferation. Cell Mol Gastroenterol Hepatol. 2022;13:459-482.

50. Cannito S, Bincoletto V, Turato C, Pontisso P, Scupoli MT, Ailuno G, Andreana I, Stella B, Arpicco S, **Bocca C**. Hyaluronated and PEGylated Liposomes as a Potential Drug-Delivery Strategy to Specifically Target Liver Cancer and Inflammatory Cells. Molecules 2022;*27*:1062.

51. Novo E, Cappon A, Villano G, Quarta S, Cannito S, **Bocca C**, Turato C, Guido M, Maggiora M, Protopapa F, Sutti S, Provera A, Ruvoletto M, Biasiolo A, Foglia B, Albano E, Pontisso P, Parola M. SerpinB3 as a Pro-Inflammatory Mediator in the Progression of Experimental Non-Alcoholic Fatty Liver Disease. Front Immunol. 2022 Jul 8;13:910526. doi: 10.3389/fimmu.2022.910526.

52. Bordano V, Kinsella GK, Cannito S, Dianzani C, Gigliotti CL, Stephens JC, Monge C, **Bocca C**, Rosa AC, Miglio G, Dianzani U, Findlay JBC, Benetti E. G protein-coupled receptor 21 in macrophages: An in vitro study. Eur J Pharmacol. 2022;926:175018. doi: 10.1016/j.ejphar.2022.175018.

53. **Bocca C**, Protopapa F, Foglia B, Maggiora M, Cannito S, Parola M, Novo E. Hepatic Myofibroblasts: A Heterogeneous and Redox-Modulated Cell Population in Liver Fibrogenesis. Antioxidants 2022,28;11::1278. doi: 10.3390/antiox11071278.

Books

1. Miglietta A, **Bocca C**, Gadoni E, Gabriel L *Relationship between cytoskeletal alterations and cell proliferation in oxidative cell conditions*, in: Advances in Free Radicals in Desease IV (casa editrice *La Goliardica Pavese*, *Pavia*, *Italia*, editori Pizzala R, Tomasi A, Vannini V), 1999, 19-23.

2. Parola M, Autelli R, **Bocca C**, Costelli P, Muzio G, Novo E, Penna F, Tamagno E. *Patologia Generale ed Elementi di Fisiopatologia*, EdiSES Università, 2020