

Paola Costelli - Curriculum vitae et studiorum

Personal details

Born in Torino
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Education

- 1987. Degree in Biological Sciences at the University of Torino discussing a thesis entitled: 'Pathogenesis of cancer cachexia in an experimental model';
- 1990. Qualification as Biologist;
- 1993. PhD in Experimental and Molecular Pathology, discussing a thesis entitled 'Study about the pathogenesis of cancer cachexia';
- 1993. Fellow of the European Economic Community (now Marie Curie Fellowships) for a stage (from 4/3/1993 to 3/12/1993) at the Department of Biochemistry and Molecular Biology, University of Barcelona, Spain, under the supervision of Prof. Josep M. Argilés;
- 1994. Post-doc fellow at the Department of Experimental Medicine and Oncology at the University of Torino (from 13/05/1994 to 13/05/1996);
- 1997. Fellow of the Gruppo di Cooperazione in Cancerologia (from 01/01/1997 to 15/04/1998). Research project: 'The molecular basis of cell and tissue damage induced by tumor necrosis factor-alpha';
- 1997. Fellow of the Consorzio Interuniversitario Biotecnologie for a 3 months stage (from 13/01/1997 to 11/04/1998) at the Department of Biochemistry and Molecular Biology, University of Barcelona, Spain, under the supervision of Prof. Josep M. Argilés.

Professional experiences and current position

- 1997. Professor at the School of Science of the University of Torino holding a short course about the 'Role of cytokines in pathology: molecular, cellular and pathophysiological aspects';
- 1998. Laboratory assistant at the Department of Experimental Medicine and Oncology, University of Torino;
- 1999-2006. Assistant professor, School of Science, University of Torino;
- 2006-2017. Associate professor of General pathology, University of Torino;
- December 22, 2017-. Full professor of General pathology, University of Torino.

Teaching activity:

- Degree in Industrial Biotechnologies, School of Science
Teaching of Molecular Immunology from 1998 to 2003;
Member of the examining board for the course of Pathophysiology;
- Bachelor (formerly Degree) in Biological Sciences, School of Science
Teaching of Immunology since 2001;
Member of the examining board for the courses of General Pathology, Cellular Pathology, and Molecular Pathology;

- Master in Cellular and Molecular Biology, School of Science
Teaching of Immunopathology from 2005 to 2015;
Teaching of Oncology and Molecular Pathology since 2016;
President of the Master from Academic Year 2015-2016 to 2020-2021;
- Master in Dietary Sciences and Human Nutrition, School of Science and School of Medicine
Teaching of Pathological Aspects of Nutrition, since 2012;
- Specialty School in Clinical Pathology, School of Medicine
Teaching of Immunology in 1999;
Teaching of Immunopathology since 2000;
- Teacher in the PhD School in 'Health and Life Sciences', curriculum 'Medicine and Experimental Therapy', School of Medicine.

Research main topics

Study of the mechanisms underlying the pathogenesis of muscle wasting in cancer cachexia, particularly focusing on the alterations of proteostasis and myogenesis.

Main projects as PI:

Paola Costelli was the PI in different projects funded by: University of Torino, Regione Piemonte, Italian Government (MIUR), Italian Association for Cancer Research (AIRC), Compagnia di San Paolo, Fondazione Cariplo, World Antidoping Association (WADA), EIT-FOOD (EU). She actually holds grants from the Food4Health joint program and from AIRC.

Bibliometry (1994-present) (www.scopus.com)

126 publications quoted in <http://www.ncbi.nlm.nih.gov/pubmed>

H index (Scopus): 48

Total citations (Scopus): 14,956

Publications

L. Tessitore, G. Bonelli, P. Costelli, L. Matera, A. Pileri, F.M. Baccino, M.U. Dianzani

(1989)

Effect of two aliphatic aldehydes, methylglyoxal and 4-hydroxypentenal, on the growth of Yoshida ascites hepatoma AH-130.

Chem-Biol. Inter.70:227-240.

L. Tessitore, G. Valente, G. Bonelli, P. Costelli, F.M. Baccino (1989)

Regulation of cell turnover in the liver of tumour-bearing rats: occurrence of apoptosis.

Int. J. Cancer 44:697-700.

F.M. Baccino, L. Tessitore, G. Bonelli, R. Autelli, P. Costelli, C. Isidoro, J.S. Amenta

(1990)

Protein turnover regulations and mechanisms in neoplastic cells and host tissues.

In Protein Metabolism in Aging (H.L. Segal, M. Rothstein, E. Bergamini, eds.) Wiley-Liss, New York, pp. 95-111.

P. Costelli, L. Tessitore, F.M. Baccino (1991)

Cancer cachexia: metabolic alterations and therapeutic approaches in an experimental model.

In The Elderly at Risk (L. Motta, I. Zs.-Nagy, eds.) Elsevier, Amsterdam. Arch. gerontol. Geriatr. suppl. 2:531-538.

S. Dessì, B. Batetta, C. Anchisi, P. Pani, G. Broccia, L. Tessitore, P. Costelli, F.M. Baccino (1991)

Cholesterol metabolism in normal and neoplastic cell proliferation.

In The Elderly at Risk (L. Motta, I. Zs.-Nagy, eds.) Elsevier, Amsterdam. Arch. Gerontol. Geriatr. suppl. 2:563-568.

- L. Tessitore, R. Massacane, P. Costelli** (1991)
Immune response to vaccine therapy in elderly patients.
In *The Elderly at Risk* (L. Motta, I. Zs.-Nagy, eds.) Elsevier, Amsterdam. Arch. Gerontol. Geriatr. suppl. 2:505-510.
- S. Dessì, B. Batetta, D. Pulisci, P. Accogli, C. Anchisi, L. Tessitore, P. Costelli, F.M. Baccino, G. Broccia, P. Pani** (1991)
Cholesterol metabolism and proliferative processes.
In *Chemical Carcinogenesis 2. Modulating Factors* (A. Columbano, F. Feo, R. Pascale, P. Pani, eds.) Plenum Press, New York, pp. 311-320.
- L. Tessitore, P. Costelli, C. Sacchi, F.M. Baccino** (1991)
Protein catabolism and apoptosis in AH-130 hepatoma cells and in the host rat liver.
In *Chemical Carcinogenesis 2. Modulating Factors* (A. Columbano, F. Feo, R. Pascale, P. Pani, eds.) Plenum Press, New York, pp. 443-449.
- S. Dessì, B. Batetta, D. Pulisci, O. Spano, R. Cherchi, G. Lanfranco, L. Tessitore, P. Costelli, F.M. Baccino, C. Anchisi, P. Pani** (1992)
Altered pattern of lipid metabolism in patients with lung cancer.
Oncology 49:436-441.
- S. Dessì, B. Batetta, C. Anchisi, P. Pani, P. Costelli, L. Tessitore, F.M. Baccino** (1992)
Cholesterol metabolism during the growth of a rat ascites hepatoma (Yoshida AH-130).
Br. J. Cancer 66:787-793.
- L. Tessitore, P. Costelli, F.M. Baccino** (1993)
Humoral mediation for cachexia in tumour-bearing rats.
Br. J. Cancer 67:15-23.
- L. Tessitore, P. Costelli, C. Sacchi, M. Piacentini, F.M. Baccino** (1993)
The role of apoptosis in growing and stationary rat ascites hepatoma, Yoshida AH-130.
J. Pathol., 171:301-309.
- L. Tessitore, P. Costelli, G. Bonetti, F.M. Baccino** (1993)
Cancer cachexia, malnutrition, and tissue protein turnover in experimental animals.
Arch. Biochem. Biophys., 306:52-58.
- P. Costelli, N. Carbò, L. Tessitore, G.J. Bagby, F.J. Lopez-Soriano, J.M. Argilés, F.M. Baccino** (1993)
Tumour necrosis factor-alpha mediates changes in tissue protein turnover in a rat cancer cachexia model.
J. Clin. Invest., 92:2783-2789.
- G.O. Kisen, L. Tessitore, P. Costelli, P.B. Gordon, P.E. Schwarze, F.M. Baccino, P.O. Seglen** (1993)
Reduced autophagic activity in primary rat hepatocellular carcinoma and ascites hepatoma cells.
Carcinogenesis, 14:2501-2505.
- L. Tessitore, P. Costelli, F.M. Baccino** (1994)
Pharmacological interference with tissue protein hypercatabolism in tumor-bearing rats.
Biochem. J., 299:71-78.
- N. Carbò, P. Costelli, L. Tessitore, G.J. Bagby, F.J. Lopez-Soriano, J.M. Argilés, F.M. Baccino** (1994)
Anti-TNF treatment interferes with changes in lipid metabolism in a tumour cachexia model.
Clin. Sci., 87:349-355.
- S. Dessì, B. Batetta, P. Pulisci, O. Spano, C. Anchisi, L. Tessitore, P. Costelli, F.M. Baccino, E. Arosio, P. Pani** (1994)
Cholesterol content in tumor tissues is inversely associated with high-density lipoprotein cholesterol in serum of patients with gastrointestinal cancer.
Cancer, 73:253-258.

P. Costelli, C. García-Martínez, M. Llovera, N. Carbó, L. Tessitore, F.J. Lopez-Soriano, N. Agell, F.M. Baccino, J.M. Argilés (1995)

Muscle protein waste in tumor-bearing rats is effectively antagonized by a β -adrenergic agonist (clenbuterol). Role of the ATP-ubiquitin-dependent proteolytic pathway.
J. Clin. Invest., 95:2367-2372.

P. Costelli, M. Llovera, C. García-Martínez, N. Carbó, F.J. López-Soriano, J.M. Argilés (1995)

Enhanced leucine oxidation in rats bearing an ascites hepatoma (Yoshida AH-130) and its reversal by clenbuterol.
Cancer Lett., 91:73-78.

S. Dessì, B. Batetta, O. Spano, F. Sanna, M. Tonello, M. Giacchino, L. Tessitore, P. Costelli, F.M. Baccino, E. Madon, P. Pani (1995)

Clinical remission is associated with restoration of normal HDL-cholesterol levels in children with malignancies.
Clin. Sci., 89:505-510.

S. Dessì, B. Batetta, O. Spano, G.J. Bagby, L. Tessitore, P. Costelli, F.M. Baccino, P. Pani, J.M. Argilés (1995)

Perturbations of triglyceride but not of cholesterol metabolism are prevented by anti-tumor necrosis factor treatment in rats bearing an ascites hepatoma (Yoshida AH-130).
Br. J. Cancer, 72:1138-1143.

P. Costelli, M. Llovera, J. Lopez-Soriano, N. Carbó, L. Tessitore, F.J. Lopez-Soriano, F.M. Baccino, J.M. Argilés (1995)

Lack of effect of eicosapentenoic acid in preventing cancer cachexia and inhibiting tumor growth.
Cancer Lett., 97:25-32.

P. Costelli, M. Llovera, N. Carbó, C. García-Martínez, F.J. López-Soriano, J.M. Argilés (1995)

Interleukin-1 receptor antagonist (IL-1ra) is unable to reverse cachexia in rats bearing an ascites hepatoma (Yoshida AH-130).
Cancer Lett., 95:33-38.

M. Llovera, C. García-Martínez, P. Costelli, N. Agell, N. Carbó, F.J. Lopez-Soriano, J.M. Argilés (1996)

Muscle hypercatabolism during cancer cachexia is not reversed by the glucocorticoid receptor antagonist RU38486.
Cancer Lett., 99:7-14.

M. Llovera, N. Carbó, C. García-Martínez, P. Costelli, L. Tessitore, F.M. Baccino, N. Agell, G.J. Bagby, F.J. Lopez-Soriano, J.M. Argilés (1996)

Anti-TNF treatment reverts increased muscle ubiquitin gene expression in tumour-bearing rats.
Biochem. Biophys. Res. Commun., 221:653-655.

J.M. Argilés, P. Costelli, N. Carbó, F.J. Lopez-Soriano (1996)

Branched-chain amino acid catabolism and cancer cachexia.
Oncology Reports, 3: 687-690.

J. López-Soriano, N. Carbó, P. Costelli, F. J. López-Soriano, J.M. Argilés (1996)

α -Adrenergic receptors may contribute to the hypertriglyceridemia associated with tumour growth.
Cancer Lett., 110: 213-216.

C. García-Martínez, P. Costelli, F.J. López-Soriano, J.M. Argilés (1997)

Is TNF really involved in cachexia?
Cancer Invest., 15: 47-54.

R.A. Canuto, G. Muzio, M. Maggiora, R. Autelli, G. Barbiero, P. Costelli, G. Bonelli, F.M. Baccino (1997)

Rapid and extensive lethal action of clofibrate on hepatoma cells in vitro.

Cell Death Diff., 4: 224-232.

N. Carbó, P. Costelli, F.J. López-Soriano, J.M. Argilés (1998)

Tumor growth influences skeletal muscle protein turnover in the pregnant rat.
Ped. Res., 43: 250-255.

R.A. Canuto, G. Muzio, G. Bonelli, M. Maggiora, R. Autelli, G. Barbiero, P. Costelli, O. Brossa, F.M. Baccino (1998)

Peroxisome proliferator induce apoptosis in hepatoma cells.
Cancer Detection and Prevention, 22: 357-366.

J.M. Argiles, N. Carbó, P. Costelli, F.J. Lopez-Soriano (1998)

Prevention of cancer and cardiovascular diseases: a common strategy?
Med. Res. Rev., 18: 139-148.

M. Llovera, N. Carbó, J. Lopez-Soriano, C. Garcia-Martínez, S. Busquets, B. Alvarez, N. Agell, P. Costelli, F.J. Lopez-Soriano, A. Celada, J.M. Argiles (1998)

Different cytokines modulate ubiquitin gene expression in rat skeletal muscle.
Cancer Lett., 133: 83-87.

N. Carbó, P. Costelli, F.M. Baccino, F.J. Lopez-Soriano, J.M. Argiles (1999)

Resveratrol, a natural product present in wine, decreases tumour growth in a rat tumour model.
Biochem. Biophys. Res. Commun., 254: 739-743.

J.M. Argiles, P. Costelli, N. Carbó, J. Pallares-Trujillo, F.J. Lopez-Soriano (1999)

Tumour growth and nitrogen metabolism in the host.
Int. J. Oncol., 14: 479-486.

P. Costelli, L. Tessitore, B. Batetta, MF Mulas, O. Spano, P. Pani, F.M. Baccino, S. Dessì (1999)

Alterations of lipid and cholesterol metabolism in cachectic tumor-bearing rats are prevented by insulin.
J. Nutr., 129: 700-706.

P. Costelli, F.M. Baccino (2000)

Cancer cachexia: from experimental models to patient management.
Curr. Op. Clin. Nutr. Metab. Care, 3: 177-181.

N. Carbó, J. Lopez-Soriano, P. Costelli, S. Busquets, B. Alvarez, F.M. Baccino, L.S. Quinn, F.J. Lopez-Soriano, J.M. Argilés (2000)

Interleukin-15 antagonizes muscle protein waste in tumour-bearing rats.
Br. J. Cancer, 83: 526-531

P. Costelli, R. De Tullio, F.M. Baccino, E. Melloni (2001)

Activation of Ca²⁺-dependent proteolysis in skeletal muscle and heart in cancer cachexia.
Br. J. Cancer, 84: 946-950

N. Carbó, J. Lopez-Soriano, P. Costelli, B. Alvarez, S. Busquets, F.M. Baccino, L.S. Quinn, F.J. Lopez-Soriano, J.M. Argilés (2001)

Interleukin-15 mediates reciprocal regulation of adipose and muscle mass: a potential role in body weight control.
Biochim. Biophys. Acta, 1526: 17-24

M. Bossola, M. Muscaritoli, P. Costelli, R. Bellantone, F. Pacelli, S. Busquets, J.M. Argilés, F.J. Lopez-Soriano, I.M. Civello, F.M. Baccino, F. Rossi Fanelli, G.B. Doglietto (2001)

Increased muscle ubiquitin mRNA levels in gastric cancer patients
Am. J. Physiol. Regul. Integr. Comp. Physiol. 280: R1518-R1523.

P. Costelli, R. Autelli, G. Bonelli, F.M. Baccino (2002)

Understanding the mechanisms of muscle wasting to improve the management of several pathologies.
Riv. Ital. Nutr. Parent. Ent. 20:7-12

P. Costelli, M. Bossola, M. Muscaritoli, G. Grieco, G. Bonelli, R. Bellantone, G.B. Doglietto, F.M. Baccino, F. Rossi Fanelli (2002)

Anticytokine treatment prevents the increase in the activity of ATP-ubiquitin- and Ca²⁺-dependent proteolytic systems in the muscle of tumor-bearing rats.
Cytokine 19:1-5.

M. Bossola, M. Muscaritoli, P. Costelli, G. Nanni, L. Tazza, N. Panocchia, S. Busquets, J.M. Argilés, F.J. Lopez-Soriano, G. Grieco, F.M. Baccino, F. Rossi Fanelli, M. Castagneto, G. Luciani (2002)

Muscle Ubiquitin M-RNA Levels In Patients With End-Stage Renal Disease On Maintenance Hemodialysis
J. Nephrol., 15:552-557.

R.A. Canuto, G. Muzio, M. Maggiora, A. Trombetta, G. Martinasso, R. Autelli, P. Costelli, G. Bonelli, F.M. Baccino (2003)

Apoptosis induced by clofibrate in Yoshida AH-130 hepatoma cells: role of HMG-CoA reductase
J. Lipid Res., 44:56-64.

M. Bossola, M. Muscaritoli, P. Costelli, G. Grieco, G. Bonelli, F. Pacelli, F. Rossi Fanelli, G.B. Doglietto, F.M. Baccino (2003)

Increased muscle proteasome activity correlates with disease severity in gastric cancer patients
Ann. Surg., 237:384-389.

P. Costelli, F.M. Baccino (2003)

Mechanisms of skeletal muscle depletion in wasting syndromes: role of the ATP-ubiquitin-dependent proteolysis
Curr. Op. Clin. Nutr. Metab. Care, 6:407-412.

M.G. Catalano, N. Fortunati, K. Arena, P. Costelli, M. Aragno, O. Danni, G. Boccuzzi (2003)

Selective up-regulation of tumor necrosis factor receptor I in tumor-bearing rats with cancer-related cachexia
Int. J. Oncol., 23:429-436.

P. Costelli, P. Aoki, B. Zingaro, N. Carbó, P. Reffo, F.J. Lopez-Soriano, G. Bonelli, J.M. Argilés, F.M. Baccino (2003)

Mice lacking TNF α receptors 1 and 2 are resistant to death and fulminant liver injury induced by agonistic anti-Fas antibody
Cell Death Differ., 10:997-1004.

P. Costelli, N. Carbó, S. Busquets, F.J. Lopez-Soriano, F.M. Baccino, J.M. Argilés (2003)

Reduced protein degradation rates and low expression of proteolytic systems support skeletal muscle hypertrophy in transgenic mice overexpressing the *c-ski* oncogene
Cancer Lett., 200:153-160.

M. Muscaritoli, P. Costelli, M. Bossola, G. Grieco, G. Bonelli, R. Bellantone, G.B. Doglietto, F. Rossi Fanelli, F.M. Baccino (2003)

Effect of simvastatin administration in an experimental model of cancer cachexia
Nutr., 19:936-939.

N. Carbó, P. Costelli, S. Busquets, J. Lopez-Soriano, F.J. Lopez-Soriano, F.M. Baccino, J.M. Argilés (2004)

Effect of *c-ski* overexpression on the development of cachexia in mice bearing the Lewis lung carcinoma
Int. J. Mol. Med., 14:719-723.

S. Laurora, E. Tamagno, F. Briatore, P. Bardini, S. Pizzimenti, C. Toaldo, P. Reffo, P. Costelli, M.U. Dianzani, O. Danni, G. Barrera (2005)

4-hydroxynonenal modulation of p53 family gene expression in the SK-N-BE neuroblastoma cells.
Free Rad. Biol. Med., 38:215-225.

P. Costelli, M. Muscaritoli, M. Bossola, R. Moore-Carrasco, S. Crepaldi, G. Grieco, R. Autelli, G. Bonelli, F. Pacelli, F.J. Lopez-Soriano, J.M. Argilés, G.B. Doglietto, F.M. Baccino, F. Rossi Fanelli (2005)
Skeletal muscle wasting in tumour-bearing rats is associated with MyoD down-regulation.
Int. J. Oncol., 26:1663-1668.

P. Costelli, P. Reffo, F. Penna, R. Autelli, G. Bonelli, F.M. Baccino (2005)
Ca²⁺-dependent proteolysis in muscle wasting.
Int. J. Biochem. Cell Biol., 37: 2134-2146.

P. Costelli, M. Muscaritoli, M. Bossola, F. Penna, P. Reffo, A. Bonetto, S. Busquets, G. Bonelli, F.J. Lopez-Soriano, G.B. Doglietto, J.M. Argilés, F.M. Baccino, F. Rossi Fanelli (2006)
IGF-1 is down-regulated in experimental cancer cachexia.
Am. J. Physiol. Regul. Integ. Comp. Physiol., 291: R674-683.

M. Bossola, M. Mirabella, E. Ricci, P. Costelli, F. Pacelli, A.P. Tortorelli, M. Muscaritoli, F. Rossi Fanelli, F.M. Baccino, P.A. Tonali, G.B. Doglietto (2006)
Skeletal muscle apoptosis is not increased in gastric cancer patients with mild-moderate weight loss.
Int. J. Biochem. Cell Biol., 38: 1561-1570.

P. Costelli, D. De Stefanis, P. Reffo, R. Autelli, G. Bonelli, F.M. Baccino (2006)
Differential modulation of TNF α -induced cell death by 3-methyladenine, an autophagy inhibitor.
Lett. Drug Des. Disc., 3: 662-667.

S. Busquets, G. Fuster, E. Ametller, M. Olivan, M. Figueras, P. Costelli, N. Carbó, J.M. Argilés, F.J. Lopez-Soriano (2007)
Resveratrol does not ameliorate muscle wasting in different types of cancer cachexia models.
Clin Nutr., 26: 239-244.

P. Costelli, V. Almendro, M.T. Figueras, P. Reffo, F. Penna, M. Aragno, R. Mastrocola, G. Boccuzzi, S. Busquets, G. Bonelli, F.J. Lopez-Soriano, J.M. Argilés, F.M. Baccino (2007)
Modulations of the calcineurin/NF-AT pathway in skeletal muscle atrophy.
Biochim. Biophys. Acta, 1770: 1028-1036.

P. Costelli, M. Muscaritoli, F. Penna, A. Bonetto, V.G. Minero, Z. Aversa, S. Iannuzzi, G. Bonelli, F.M. Baccino, F. Rossi Fanelli (2007)
Nutritional support in cancer.
Curr. Nutr. Food Sci., 3:242-248.

A. Molfino, P. Costelli, Z. Aversa, F.M. Baccino, F. Rossi Fanelli, M. Muscaritoli (2007)
Statins, coenzyme Q10 and cachexia: what's the link?
Am. J. Cardiol., 100:1497-1498.

R. Mastrocola, P. Reffo, F. Penna, C.E. Tomasinelli, G. Boccuzzi, F.M. Baccino, M. Aragno, P. Costelli (2008)
Muscle wasting in diabetic and tumor-bearing rats: role of oxidative stress
Free Rad. Biol. Med., 44: 584-593.

M. Muscaritoli, P. Costelli, Z. Aversa, A. Bonetto, F.M. Baccino, F. Rossi Fanelli (2008)
New strategies to overcome cancer cachexia: from molecular mechanisms to the 'Parallel Pathway'.
Asia Pac. J. Clin. Nutr., 17, Suppl 1:387-390.

P. Costelli, M. Muscaritoli, A. Bonetto, F. Penna, P. Reffo, M. Bossola, G. Bonelli, G.B. Doglietto, F.M. Baccino, F. Rossi Fanelli (2008)
Muscle myostatin signaling is enhanced in cancer cachexia.
Eur. J. Clin. Invest., 38: 531-538.

M. Bossola, F. Pacelli, P. Costelli, A. Tortorelli, F. Rosa, G.B. Doglietto (2008)

Proteasome activities in the rectus abdominis muscle of young and older individuals.

Biogerontology, 9: 261-268.

A. Bonetto*, F. Penna*, V.G. Minero, P. Reffo, G. Bonelli, F.M. Baccino, P. Costelli (2009) - *equally contributed

Deacetylase inhibitors modulate the myostatin/follistatin axis without improving cachexia in tumor-bearing mice.

Curr. Cancer Drug Targ., 9: 608-616.

S. Rossi, E. Stoppani, W. Martinet, A. Bonetto, P. Costelli, R. Giuliani, F. Colombo, A. Preti, S. Marchesini, A. Fanzani (2009)

The cytosolic sialidase Neu2 is degraded by autophagy during myoblast atrophy.

Biochim. Biophys. Acta, 1790: 817-828.

A. Bonetto*, F. Penna*, M. Muscaritoli, V.G. Minero, F. Rossi Fanelli, F.M. Baccino, P. Costelli (2009) - *equally contributed

Antioxidants in the treatment of skeletal muscle atrophy.

Free Rad. Biol. Med., 47: 906-916.

V. Almendro, G. Fuster, E. Ametller, P. Costelli, F. Pilla, S. Busquets, M. Figueras, J.M. Argilés, F.J. Lopez-Soriano (2009)

Interleukin-15 increases calcineurin expression in 3T3-L1 cells: Possible involvement on in vivo adipocyte differentiation.

Int. J. Mol. Med., 24: 453-458.

P. Costelli (2009)

Therapeutic approaches to cancer-related cachexia

Hosp. Pharm. Europe, 46

F. Penna, P. Reffo, G. Muzio, R.A. Canuto, F.M. Baccino, G. Bonelli, P. Costelli (2009)

Mechanisms of clofibrate-induced apoptosis in Yoshida AH-130 ascites hepatoma cells.

Biochem. Pharmacol., 77: 169-176.

F. Penna, G. Bonelli, F.M. Baccino, P. Costelli (2010)

Cytotoxic properties of clofibrate and other peroxisome proliferators: relevance to cancer progression.

Curr. Med. Chem., 17: 309-320.

F. Penna*, A. Bonetto*, M. Muscaritoli, D. Costamagna, V.G. Minero, G. Bonelli, F. Rossi Fanelli, F.M. Baccino, P. Costelli (2010) - *equally contributed

Muscle atrophy in experimental cancer cachexia: is the IGF-1 signaling pathway involved?

Int. J. Cancer, 127: 1706-1717.

M. Muscaritoli, S.D. Anker, J. Argilés, Z. Aversa, J.M. Bauer, G. Biolo, Y. Boirie, I. Bosaeus, T. Cederholm, P. Costelli, K.C. Fearon, A. Laviano, M. Maggio, F. Rossi Fanelli, S.M. Schneider, A. Schols, C.C. Sieber (2010)

CONSENSUS DEFINITION OF SARCOPENIA, CACHEXIA AND PRE-CACHEXIA

Joint document elaborated by Special Interest Groups (SIG) "Cachexia-Anorexia in Chronic Wasting Diseases" and "Nutrition in Geriatrics".

Clin. Nutr., 29: 154-159.

F. Penna, V.G. Minero, D. Costamagna, G. Bonelli, F.M. Baccino, P. Costelli (2010)

Anticytokine strategies for the treatment of cancer-related anorexia and cachexia.

Exp. Op. Biol. Ther., 10: 1241-1250.

A. Bonetto, F. Penna, V. G. Minero, P. Reffo, D. Costamagna, G. Bonelli, F.M. Baccino, P. Costelli (2010)
Glutamine prevents myostatin hyperexpression and protein hypercatabolism induced in C2C12 myotubes by Tumor Necrosis Factor- α .
Amino Acids, 40: 585-594.

C. Anderwald, H.J. Ankersmit, A. Badaoui, L. Beneduce, V.U. Buko, L.A. Calo, J.J. Carrero, C.Y. Chang, K.C. Chang, Y.J. Chen, M. Cnotliwy, P. Costelli, A.B. Crujeiras, A. Cuocolo, P.A. Davis, O.J. de Boer, C.F. Ebenbichler, C. Erridge, G. Fassina, S.B. Felix, M.C. García-Gómez, F. Guerrero-Romero, D.G. Haider, A. Heinemann, L.R. Herda, E.K. Hoogeveen, W.H. Hörl, B. Iglseder, K.C. Huang, S. Kaser, A. Kastrati, N. Kuzniatsova, G. Latella, M. Lichtenauer, Y.K. Lin, G.Y. Lip, N.H. Lu, O. Lukivskaya, P. Luschnig, M. Maniscalco, J.A. Martinez, S. Müller-Krebs, G. Ndrepepa, G. Nicolaou, M. Peck-Radosavljevic, F. Penna, X. Pintó, T. Reiberger, M. Rodriguez-Moran, A. Schmidt, V. Schwenger, L. Spinelli, P. Starkel, C.D. Stehouwer, P. Stenvinkel, P. Strasser, H. Suzuki, A. Tschoner, A.C. van der Wal, D.L. Vesely, C.J. Wen, I. Wiernicki, G. Zanninelli, Y. Zhu (2010)
Research update for articles published in EJCI in 2008.
Eur. J. Clin. Invest., 40: 770-789.

F. Penna, D. Costamagna, A. Fanzani, G. Bonelli, F.M. Baccino, P. Costelli (2010)
Muscle wasting and impaired myogenesis in tumor bearing mice are prevented by ERK inhibition.
PLoS ONE, 5: e13604.

Z. Aversa*, A. Bonetto*, P. Costelli, V.G. Minero, F. Penna, F.M. Baccino, S. Lucia, F. Rossi Fanelli, M. Muscaritoli (2011) - *equally contributed
 β -hydroxy- β -methylbutyrate (HMB) attenuates muscle and body weight loss in experimental cancer cachexia.
Int. J. Oncol., 38: 713-720.

E. Stoppani, S. Rossi, E. Meacci, F. Penna, P. Costelli, A. Bellucci, F. Faggi, D. Maiolo, E. Monti, A. Fanzani (2011)
Point mutated Caveolin-3 form (P104L) impairs myoblast differentiation via Akt and p38 signalling reduction, leading to an immature cell signature.
BBA - Mol. Basis Dis., 1812: 468-479.

F. Penna, S. Busquets, F. Pin, M. Toledo, F.M. Baccino, F.J. Lopez-Soriano, P. Costelli, J.M. Argilés (2011)
Combined approach to counteract experimental cancer cachexia: eicosapentenoic acid and exercise training.
J. Cachexia Sarcopenia Muscle, 2: 95-104.

G. Fuster, Almendro V., Fontes-Oliveira C.C., Toledo M., Costelli P., Busquets F., Lopez-Soriano F.J., Argilés J.M. (2011)
Interleukin-15 affects differentiation and apoptosis in adipocytes: implications in obesity.
Lipids, 46: 1033-1042.

Z. Aversa*, A. Bonetto*, F. Penna, P. Costelli, G. di Rienzo, A. Lacitignola, F.M. Baccino, V. Ziparo, P. Mercantini, F. Rossi Fanelli, M. Muscaritoli (2012)
Changes in myostatin signaling in non weight-losing cancer patients.
Ann. Surg. Oncol., 19: 1350-1356.

J.M. Argilés, S. Busquets, F.J. Lopez-Soriano, P. Costelli, F. Penna (2012)
Are there any benefits for exercise training in cancer cachexia?
J. Cachexia Sarcopenia Muscle, 3: 73-76.

Daniel J. Klionsky and 1269 others (2012)
Guidelines for the use and interpretation of assays for monitoring autophagy
Autophagy, 8: 445-544.

F. Penna, F. Pin, D. Costamagna, P. Reffo, G. Bonelli, F.M. Baccino, P. Costelli (2012)
Caspase 2 activation and ER stress drive rapid Jurkat cell apoptosis by clofibrate.
PLoS ONE, 7: e45237.

F. Penna, D. Costamagna, F. Pin, A. Camperi, A. Fanzani, E.M. Chiarpotto, G. Cavallini, G. Bonelli, F.M.

Baccino, P. Costelli (2013)

Autophagic degradation contributes to muscle wasting in cancer cachexia
Am. J. Pathol., 182: 1367-1378.

M. Merli, M. Giusto, A. Molfino, A. Bonetto, M. Rossi, S. Ginanni Corradini, F.M. Baccino, F. Rossi Fanelli, P. Costelli, M. Muscaritoli (2013)

MuRF-1 and p-GSK3 β expression in muscle atrophy of liver cirrhosis
Liv. Int., 33: 714-721.

F. Penna, G. Bonelli, F.M. Baccino, P. Costelli (2013)

Mechanism-based therapeutic approach to cachexia.
Vitamins & Hormones, 92: 271-299.

A. Bonetto, F. Penna, Z. Aversa, P. Mercantini, F.M. Baccino, P. Costelli, V. Ziparo, S. Lucia, F. Rossi Fanelli, M. Muscaritoli (2013)

Early changes of muscle IGF-1 and myostatin gene expression in gastric cancer patients
Muscle and Nerve, 48: 387-392.

V.G. Minero, A. Khadjavi, P. Costelli, F.M. Baccino, G. Bonelli (2013)

JNK activation is required for TNF α -induced apoptosis in human hepatocarcinoma cells.
Int. Immunopharm., 17: 92-98.

F. Penna, S. Busquets, M. Toledo, F. Pin, D. Massa, F.J. Lopez-Soriano, P. Costelli, J.M. Argiles (2013)

Erythropoietin administration partially prevents adipose tissue loss in experimental cancer cachexia models.
J. Lipid. Res., 54: 3045-3051.

F. Faggi, Mitola S., G. Sorci, F. Riuzzi, R. Donato, S. Codenotti, P.L. Poliani, M. Cominelli, R. Vescovi, S. Rossi, S. Calza, M. Colombi, F. Penna, P. Costelli, I. Perini, M. Sampaolesi, E. Monti, A. Fanzani (2014)

Phosphocaveolin-1 enforces tumor growth and chemoresistance in rhabdomyosarcoma.
PLoS One, 9(1):e84618.

F. Penna, F.M. Baccino, P. Costelli (2014)

Coming back: autophagy in cachexia.
Curr. Op. Clin. Nutr. Metab. Care, 17: 241-246.

S. Gallo, S. Gatti, V. Sala, R. Albano, P. Costelli, E. Casanova, P. Comoglio, T. Crepaldi (2014)

Agonist antibodies activating the Met receptor protect cardiomyoblasts from cobalt chloride-induced apoptosis and autophagy.
Cell Death Dis., 5: e1185.

F. Penna, A. Bonetto, F.M. Baccino, P. Costelli (2015). Glutamine and myostatin expression in muscle. In *Glutamine in Health and Disease*, ed. R. Rajendram, V.R. Preedy, and V.B. Patel. London: Humana Press, pp. 513-526.

V.G. Minero, D. De Stefanis, P. Costelli, F.M. Baccino, G. Bonelli (2015). In vitro and in vivo conditional sensitization of hepatocellular carcinoma cells to TNF-induced apoptosis by Taxol.
Cell Cycle, 4:1090-1102.

D. Costamagna, P. Costelli, M. Sampaolesi, F. Penna (2015)

Role of inflammation in muscle homeostasis and myogenesis.
Mediat. Inflamm., 2015: 805172.

F. Pin*, S. Busquets*, M. Toledo, A. Camperi, F.J. Lopez-Soriano, P. Costelli, J.M. Argilés*, F. Penna* (2015) - *equally contributed

Combination of exercise training and erythropoietin prevents cancer-induced muscle alterations.
Oncotargets, 6:43202-43215.

F. Penna, A. Bonetto, Z. Aversa, V.G. Minero, F. Rossi Fanelli, P. Costelli, M. Muscaritoli (2016).

Effect of the specific proteasome inhibitor bortezomib on cancer-related muscle wasting. *J. Cachexia*,

Sarcopenia and Muscle, 7: 345-354.

E. Ferraro, F. Pin, S. Gorini, L. Pontecorvo, A. Ferri, V. Mollace, P. Costelli, G. Rosano (2016).
Improvement of skeletal muscle performance in aging by the metabolic modulator trimetazidine.
J. Cachexia, Sarcopenia and Muscle, 7: 449-457.

F. Penna, F. Pin, R. Ballarò, F.M. Baccino, P. Costelli (2016).
Novel investigational drugs mimicking exercise for the treatment of cachexia.
Exp. Op. Invest. Drugs, 25: 63-72.

Daniel J. Klionsky and xxx others (2016)
Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition)
Autophagy, 2: 1-222.

R. Ballarò, P. Costelli, F. Penna (2016)
Animal models for cancer cachexia
Curr. Opin. Support. Palliat. Care, 10: 281-287.

Z. Aversa, F. Pin, S. Lucia, F. Penna, R. Verzaro, M. Fazi, G. Colasante, A. Tirone, F. Rossi Fanelli, C. Ramaccini, P. Costelli, M. Muscaritoli (2016)
Autophagy is induced in the skeletal muscle of cachectic cancer patients
Sci. Rep., 6: 30340.

D. De Stefanis, R. Mastrocola, D. Nigro, P. Costelli, M. Aragno (2015)
Effects of chronic sugar consumption on lipid accumulation and autophagy in the skeletal muscle.
Eur. J. Nutr., 56: 363-373.

A. Camperi, F. Pin, D. Costamagna, F. Penna, M. Lopez, Z. Aversa, T. Zimmers, R. Verzaro, R. Fittipaldi, G. Caretti, F.M. Baccino, M. Muscaritoli, P. Costelli (2017)
Vitamin D and VDR in cancer cachexia and muscle regeneration
Oncotarget, 8: 21778-21793.

F. Pin, V.G. Minero, F. Penna, M. Muscaritoli, R. De Tullio, F.M. Baccino, P. Costelli (2017)
Interference with Ca²⁺-dependent proteolysis does not alter the course of muscle wasting in experimental cancer cachexia
Front. Physiol., 8: 213.

Z. Aversa, P. Costelli, M. Muscaritoli (2017)
Cancer-induced muscle wasting: latest findings in prevention and treatment
Ther. Adv. Med. Oncol., 9: 369-382.

F. Penna, A. Camperi, M. Muscaritoli, N. Filigheddu, P. Costelli (2017)
The role of vitamin D in cancer cachexia.
Curr. Opin. Support. Palliat. Care, 11: 287-292.

P. Costelli (2017)
Circ-ZNF609: a novel regulator of myogenesis.
Non-coding RNA Invest., 1: 2.

F. Molinari, F. Pin, S. Gorini, S. Chiandotto, L. Pontecorvo, E. Rizzuto, S. Pisu, A. Musaro, F. Penna, P. Costelli, G. Rosano, E. Ferraro (2017)
The mitochondrial metabolic reprogramming agent trimetazidine as an 'exercise mimetic' in cachectic C26-bearing mice.
J. Cachexia, Sarcopenia and Muscle, 8: 954-973.

M. Segatto, R. Fittipaldi, F. Pin, R., K.D. Ko, H. Zare, C. Fenizia, G. Zanchettin, E. Pierobon, S. Hatakeyama, C. Sperti, S. Merigliano, M. Sandri, P. Filippakopoulos, P. Costelli, V. Sartorelli, G.

Caretti (2017)

Epigenetic Targeting of Bromodomain Protein BRD4 Counteracts Cancer Cachexia and Prolongs Survival. *Nature Commun.*, 8: 1707, DOI: 10.1038/s41467-017-01645-7.

L. Gatta, L. Vitiello, S. Gorini, S. Chiandotto, P. Costelli, A.M. Giammarioli, W. Malorni, G. Rosano, E. Ferraro (2017)

Modulating the metabolism by trimetazidine enhances myoblast differentiation and promotes myogenesis in cachectic tumor-bearing C26 mice. *Oncotarget*, 8: 113938-113956.

F. Penna, R. Ballarò, M. Beltra, S. De Lucia, P. Costelli (2018)

Modulating metabolism to improve cancer-induced muscle wasting. *Oxidative Medicine and Cellular Longevity*, 2018:7153610.

F. Pierucci, A. Frati, C. Battistini, F. Matteini, M.C. Iachini, A. Vestri, F. Penna, P. Costelli, E. Meacci (2018)

Involvement of released sphingosine 1-phosphate/sphingosine 1-phosphate receptor axis in skeletal muscle atrophy. *BBA Mol. Bas. Dis.*, 1864: 3598-3614.

F. Penna, P. Costelli (2019)

New developments in investigational HDAC inhibitors for the potential multimodal treatment of cachexia. *Expert Opin. Investig. Drugs*, 28: 179-189.

R. Ballarò, M. Beltrà, S. De Lucia, F. Pin, K. Ranjbar, J.J. Hulmi, P. Costelli*, F. Penna* (2019)

Moderate exercise in mice improves cancer plus chemotherapy-induced muscle wasting and mitochondrial alterations. *FASEB J.*, 33: 5482-5494.

F. Penna, R. Ballarò, M. Beltrà, S. De Lucia, L. García Castillo, P. Costelli (2019)

The skeletal muscle as an active player against cancer cachexia. *Front. Physiol.*, 10:41. doi: 10.3389/fphys.2019.00041.

K. Ranjbar*, R. Ballarò*, Q. Bover, F. Pin, M. Beltrà, F. Penna, P. Costelli (2019)

Combined exercise training positively affects muscle wasting in tumor-bearing mice. *Med. Sci. Sports Exerc.*, 51: 1387-1395.

R. Ballarò, F. Penna, F. Pin, M.C. Gómez-Cabrera, J. Viña, P. Costelli (2019)

Moderate exercise improves experimental cancer cachexia by modulating the redox homeostasis. *Cancers (Basel)*, 11(3). pii: E285.

F. Penna, R. Ballarò, P. Martínez-Cristobal, D. Sala, D. Sebastian, S. Busquets, M. Muscaritoli, JM Argilés, P. Costelli, A. Zorzano (2019)

Autophagy exacerbates muscle wasting in cancer cachexia and impairs mitochondrial function. *J. Mol. Biol.*, 431: 2674-2686.

R. Ballarò, F. Penna, E. Ferraro, P. Costelli (2019)

Muscle mitochondria and oxidative metabolism as targets against cancer cachexia. *J. Cancer Met. Treat.*, 5: 61-69.

R. Belli, A. Bonato, L. De Angelis, S. Mirabili, M.R. Ricciardi, A. Tafuri, A. Molino, M. Leigheb, P. Costelli, M. Caruso, M. Muscaritoli, E. Ferraro (2019)

Metabolic reprogramming promotes myogenesis during aging. *Front. Physiol.*, 10:897. eCollection 2019.

D. De Stefanis, S. Scimè, S. Accomazzo, A. Catti, A. Occhipinti, C.M. Berteà, P. Costelli (2019)

Effects of an extra-virgin olive oil extract enriched in ligstroside aglycone and oleocanthal on liver cancer cell

lines.

Cancers, 11(11). pii: E1640.

F. Penna, R. Ballarò, P. Costelli (2020)

The redox balance: a target for interventions against muscle wasting in cancer cachexia?

Antioxid. Redox Signal, in press, doi: 10.1089/ars.2020.8041.

D. Costamagna, R. Duelen, F. Penna, D. Neumann, P. Costelli*, M. Sampaolesi*(2020)

Interleukin 4 administration improves muscle function, adult myogenesis and lifespan of colon carcinoma-bearing mice.

Journal of Cachexia, Sarcopenia and Muscle, 11: 783-801.

E. Agosti, M. De Feudis, E. Angelino, R. Belli, M. Alves Teixeira, I. Zaggia, E. Tamiso, T. Raiteri, A. Scircoli, F.L. Ronzoni, M. Muscaritoli, A. Graziani, F. Prodam, M. Sampaolesi, P. Costelli, E. Ferraro, S. Reano, N. Filigheddu (2020)

Both ghrelin deletion and unacylated ghrelin overexpression preserve muscles in aging mice.

Aging, 12: 13939-13957.

V. Ponzo, M. Pellegrini, P. Costelli, L. Vázquez-Araújo, L. Gayoso, C. D'Eusebio, E. Ghigo, S. Bo (2021).

Strategies for Reducing Salt and Sugar Intakes in Individuals at Increased Cardiometabolic Risk.

Nutrients, 13: 279.

R. Ballarò, P. Lopalco, V. Audrito, M. Beltrà, F. Pin, R. Angelini, P. Costelli, A. Corcelli, A. Bonetto, H.H. Szeto, T.M. O'Connell, F. Penna (2021).

Targeting mitochondria by SS-31 ameliorates the whole body energy status in cancer- and chemotherapy-induced cachexia.

Cancers, 13: 850.

Daniel J. Klionsky and xxx others (2021)

Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition)

Autophagy, 8: 1-382.

F. Pierucci, A. Frati, C. Battistini, F. Penna, P. Costelli, E. Meacci (2021)

Control of skeletal muscle atrophy associated to cancer or corticosteroids by ceramide kinase.

Cancers, 13: 3285.

R. Sartori, A. Hagg, S. Zampieri, A. Armani, C.E. Winbanks, L.R. Viana, M. Haidar, K.I. Watt, H. Qian, C. Pezzini, P. Zanganeh, B.J. Turner, A. Larsson, G. Zanchettin, E.S. Pierobon, L. Moletta, M. Valmasoni, A. Ponzoni, S. Attar, G. DaDalt, C. Sperti, M. Kustermann, R.E. Thomson, L. Larsson, K.L. Loveland, P. Costelli, A. Megighian, S. Merigliano, F. Penna, P. Gregorevic, M.Sandri (2021).

Perturbed BMP signaling and denervation promote muscle wasting in cancer cachexia.

Science Translational Medicine, 4;13(605): eaay9592.

R. Belli, E. Ferraro, A. Molfino, R. Carletti, F. Tambaro, P. Costelli, M. Muscaritoli (2021)

Liquid biopsy for cancer cachexia: focus on muscle-derived microRNAs.

Int. J. Mol. Sci., 22: 9007.

M. Beltrà, F. Pin, R. Ballarò, P. Costelli, F. Penna (2021)

Mitochondrial dysfunction in cancer cachexia: impact on muscle health and regeneration.

Cells, 10:3150.

F. Pin, M. Beltrà, L. García-Castillo, B. Pardini, G. Birolo, G. Matullo, F. Penna, D. Guttridge, P. Costelli (2022)

Extracellular vesicles derived from tumor cells as a trigger of energy deficit in the skeletal muscle.

Journal of Cachexia, Sarcopenia and Muscle, 13:481-494.

M. Beltrà, F. Pin, D. Costamagna, R. Duelen, A. Renzini, R. Ballarò, L. Garcia-Castillo, A. Iannuzzi, V. Moresi, D. Coletti, M. Sampaolesi, F. Penna, P. Costelli (2022)

PGC-1 α in the myofibers regulates the balance between myogenic and adipogenic progenitors affecting muscle

regeneration.
iScience, 25: 105480.

L. Garcia-Castillo, G. Rubini, P. Costelli (2023)
Pharmacotherapeutic options for cancer cachexia: emerging drugs and recent approvals.
Exp. Op. Pharmacoter., 24:1053-1065.