

Curriculum vitae

Luca Primo

Personal details

Born 01/02/1968
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Educations

- PhD in Biochemistry 1994 – 1998 School of Medicine, University of Torino, Italy
- Master's Degree in Biological Sciences 1988 – 1993 Faculty of physical, mathematical and natural sciences, University of Torino, Italy

Professional experiences and current position

- Full Professor of Biochemistry, University of Torino, Medical School, Dept. of Oncology, Torino, Italy. Since 2018
- Direction of Cell Migration Laboratory, Candiolo Cancer Institute-FPO IRCCS, Candiolo, Italy Since 2009
- Associate Professor of Biochemistry, University of Torino, Medical School, Dept. of Oncology, Torino, Italy 2014 – 2018
- Assistant Professor of Biochemistry, University of Torino, Medical School, Dept. of Oncology, Torino, Italy 2006 – 2014
- Research Assistant, University of Torino, Medical School, Dept. of Genetic, biology and biochemistry, Torino, Italy 2006 – 2014
- Research Fellow, Dept. of Biochemistry, Tufts University, Boston, USA 1999

Honors

Awarded with AIRC fellowship

Teaching activity:

Professor at the School of Medicine of University of Torino, teaching Biochemistry for nursing school, Biochemistry for laboratory technician and Medical Biochemistry at the medical school.
Faculty member of PhD school of Complex Systems for Biomedicine
Group leader of the Laboratory of Cell Migration at Candiolo Cancer Institute- IRCCS where I am leading a small group of researchers, post-docs and PhD students

Research main topics

I have a remarkable experience in the field of vascular cell biology and, more recently, in the 3D cell cultures and tumor organoids.
I started my research experience characterizing the thrombospondin receptor CD36 (Blood, 1993; J Immunol, 2001; Faseb J., 2005), and contributing to unveil the molecular mechanisms of several angiogenic growth factors, such as VEGF-A (JBiolChem, 1998) and GM-CSF (Blood, 1997).
Then I moved to the Candiolo Cancer Institute where I focused my research efforts on the PI3K signalling pathway in angiogenesis and cell motility (Oncogene, 2000). During an experience at the Tuft University of Boston, I started to study the protein kinase PDK1, a downstream effector of PI3K. I discovered the role of PDK1 in the cell motility (JCellBiol, 2007), breast cancer growth (Neoplasia, 2012) and tumor invasion (JCellBiol, 2014). In the angiogenesis field I showed the pro-angiogenic role of integrin $\alpha 6$ (Cancer Res, 2010) and the effects of miR126 on Angiopoietin1 signaling (BBA-MolCellRes, 2012). Moreover, I developed a new model for 3D study of tumor angiogenesis, the Human Arterial Ring assay, which can be exploited for drug screening and gene function analysis on human vessels (Blood, 2013). More recently, I described regulatory mechanisms of integrin endocytosis (Traffic, 2010; JCellSci, 2015) and the role of endothelial podosomes in angiogenesis (NatCellBiol, 2014). Now I am generating collections of patient-derived organoids from colorectal, lung and mammary cancers. In these models, I am investigating cancer vulnerability induced by KRAS mutations.

Main funded projects as PI:

2019 AIRC investigator grants 3years
2016 AIRC investigator grants 3years
2014 Telethon 1 year
2013 AIRC- investigator grant 3 years
2012 Strategic Research grants- University of Torino 3 years
2012 FIRB-MIUR Grant RPAB11BYNP 4years

Bibliometry (1993-present)

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Citations 3,465

Publications last 10 years

Palmiero, M., Cantarosso, I., di Blasio, L., Monica, V., Peracino, B., Primo, L., Puliafito, A. Collective directional migration drives the formation of heteroclonal cancer cell clusters (2023) .

Bironzo, P., Primo, L., Novello, S., Righi, L., Candeloro, S., Manganaro, L., Bussolino, F., Pirri, F., Scagliotti, G.V. Clinical-Molecular Prospective Cohort Study in Non-Small Cell Lung Cancer (PROMOLE study): A Comprehensive Approach to Identify New Predictive Markers of Pharmacological Response (2022) 23 (6), pp. e347-e352.

Peracino, B., Monica, V., Primo, L., Bracco, E., Bozzaro, S. Iron metabolism in the social amoeba *Dictyostelium discoideum*: A role for ferric chelate reductases (2022) 101 (3), art. no. 151230, .

Iaia, I., Gammaitoni, L., Cattaneo, G., Giraud, L., Donini, C., Fiorino, E., Primo, L., Carnevale-Schianca, F., Aglietta, M., Puliafito, A., Sangiolo, D. Recruitment, infiltration and cytotoxicity of hla-independent killer lymphocytes in three-dimensional melanoma models (2021) 13 (10), art. no. 2302, .

Palmieri, M., Pinto, A.M., di Blasio, L., Currò, A., Monica, V., Sarno, L.D., Doddato, G., Baldassarri, M., Frullanti, E., Giliberti, A., Mussolin, B., Fallerini, C., Molinaro, F., Vaghi, M., Renieri, A., Primo, L. A pilot study of next generation sequencing–liquid biopsy on cell-free DNA as a novel non-invasive diagnostic tool for Klippel–Trenaunay syndrome (2021) 29 (1), pp. 85-91.

Somale, D., Di Nardo, G., di Blasio, L., Puliafito, A., Vara-Messler, M., Chiaverina, G., Palmiero, M., Monica, V., Gilardi, G., Primo, L., Gagliardi, P.A. Activation of RSK by phosphomimetic substitution in the activation loop is prevented by structural constraints (2020) 10 (1), art. no. 591, .

Lupo, B., Sassi, F., Pinnelli, M., Galimi, F., Zanella, E.R., Vurchio, V., Migliardi, G., Gagliardi, P.A., Puliafito, A., Manganaro, D., Luraghi, P., Kragh, M., Pedersen, M.W., Horak, I.D., Boccaccio, C., Medico, E., Primo, L., Nichol, D., Spiteri, I., Heide, T., Vatsiou, A., Graham, T.A., Élez, E., Argiles, G., Nuciforo, P., Sottoriva, A., Dienstmann, R., Pasini, D., Grassi, E., Isella, C., Bertotti, A., Trusolino, L. Colorectal cancer residual disease at maximal response to EGFR blockade displays a druggable Paneth cell–like phenotype (2020) 12 (555), art. no. eAAX8313, .

di Blasio, L., Vara-Messler, M., Primo, L. Three-dimensional in vitro models of angiogenesis (2020) pp. 175-189.

Chiaverina, G., Blasio, L.D., Monica, V., Accardo, M., Palmiero, M., Peracino, B., Vara-Messler, M., Puliafito, A., Primo, L. Dynamic interplay between pericytes and endothelial cells during sprouting angiogenesis (2019) 8 (9), art. no. 1109, .

Gagliardi, P.A., Primo, L. Death for life: a path from apoptotic signaling to tissue-scale effects of apoptotic epithelial extrusion (2019) 76 (18), pp. 3571-3581.

Puliafito, A., Ricciardi, S., Pirani, F., Čermochová, V., Boarino, L., De Leo, N., Primo, L., Descrovi, E.

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Gesmundo, I., Di Blasio, L., Banfi, D., Villanova, T., Fanciulli, A., Favaro, E., Gamba, G., Musuraca, C., Rapa, I., Volante, M., Munegato, S., Papotti, M., Gontero, P., Primo, L., Ghigo, E., Granata, R. Proton pump inhibitors promote the growth of androgen-sensitive prostate cancer cells through ErbB2, ERK1/2, PI3K/Akt, GSK-3 β signaling and inhibition of cellular prostatic acid phosphatase (2019) 449, pp. 252-262.

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Doronzo, G., Astanina, E., Corà, D., Chiabotto, G., Comunanza, V., Noghero, A., Neri, F., Puliafito, A., Primo, L., Spampinato, C., Settembre, C., Ballabio, A., Camussi, G., Oliviero, S., Bussolino, F. TFEB controls vascular development by regulating the proliferation of endothelial cells (2019) 38 (3), art. no. e98250, .

Di Blasio, L., Puliafito, A., Gagliardi, P.A., Comunanza, V., Somale, D., Chiaverina, G., Bussolino, F., Primo, L. PI3K/mTOR inhibition promotes the regression of experimental vascular malformations driven by PIK3CA-activating mutations article (2018) 9 (2), art. no. 45, .

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Gnavi, S., di Blasio, L., Tonda-Turo, C., Mancardi, A., Primo, L., Ciardelli, G., Gambarotta, G., Geuna, S., Perroteau, I. Gelatin-based hydrogel for vascular endothelial growth factor release in peripheral nerve tissue engineering (2017) 11 (2), pp. 459-470.

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