

## PERSONAL INFORMATION

## LUCA CARDONE, Ph.D.



📍 "REGINA ELENA" NATIONAL CANCER INSTITUTE-IRCCS,  
VIA ELIO CHIANESI , 53 ROMA-ITALY



Sex Male | Date of birth . | Nationality Italian

## JOB POSITION

**PRINCIPAL INVESTIGATOR  
(TRANSLATIONAL CANCER RESEARCH)**

## WORK EXPERIENCE

FROM 11/2014 TO PRESENT

**PRINCIPAL INVESTIGATOR (PI)**

Regina Elena National Cancer Institute – IRCCS

Via Elio Chianesi 53, Rome, Italy (<https://www.ifo.it/>)

Main Activities and responsibilities:

As PI, I coordinate, supervise and develop research projects in translational oncology. The research performed in my laboratory combines multidisciplinary approaches, based on computational modelling and experimental validation, to identify opportunities for drug repurposing of FDA-approved drugs against well-established or newly discovered anticancer targets.

Specific topics of my current research include:

- Pharmacological approaches targeting metabolic dependencies that support metastases and immune-tolerance in triple-negative breast cancer;
- Metabolomics of cancer-stem like cells with high metastatic potential;
- Computer-aided drug repositioning against KRAS dependency in pancreatic cancer;
- Experimental and computer-aided modelling of oncogenes dependency in the complex tumour microenvironment.

**Sector:** Medical research in molecular and translational oncology.

FROM 11/2013 TO 3/2015

**PROJECT COORDINATOR AND SCIENTIFIC CONSULTANT**

For the research group of Dr. Ruggero De Maria (IRE) in the frame of "5x1000" AIRC-funded project, focused on: i) The development of integrated models for anticancer drug discovery; ii) The development of molecular and cellular studies with cancer stem cells models.

Regina Elena National Cancer Institute – IRCCS

Via Elio Chianesi 53, Rome, Italy

Main activities and responsibilities:

- To supervise and coordinate research activities of 35 staff members;
- To define research strategies;
- To assist the scientific director for lab management;
- To organize and attend meetings with project partners;
- To write research reports.

**Sector:** Medical research in molecular and translational oncology

FROM 1/2012 TO 8/2014

**SENIOR RESEARCH SCIENTIST**

System Biology and Functional Genomic Department

Telethon Institute of Genetics and Medicine (TIGEM), Naples (Italy)

Main activities and responsibilities:

I have been in charge of the design, development, and implementation of research projects in the field of cancer genomics and cancer metabolism aimed to:

- Apply novel bioinformatics approaches to understand the molecular and cellular alterations involved in the progression of cancer;
- Identify mechanism(s) of aberrant cancer cells metabolism;
- Implement system biology approaches to understand aberrant metabolic pathways in cancers;
- Use genetic signatures derived from cancer samples to predict drug sensibility and cancer targets.

Additional responsibilities:

- Presentation of data at scientific international conferences.
- To supervise three Ph.D. students.
- To edit manuscripts and reviews.
- To review internal manuscripts.
- To write research grants.

**Sector:** Medical research in molecular and translational oncology and metabolomics.

FROM 1/2010 – TO 12/2011

**SENIOR RESEARCH SCIENTIST**

Molecular and Cellular Pathology Department

Medical School; Naples University (Italy)

Main activities and responsibilities:

I have been in charge of the design, development, and implementation of research projects in the field of cancer genomics and cancer metabolism aimed to:

- Understand the role of specific cancer genetic alteration (oncogenes and tumor suppressor) in tumor development and maintenance, with a particular focus on the crosstalk among molecular and cellular alterations of cancer with the tumor microenvironment;
- Implement isogenic cell lines models for the understanding of molecular and cellular effects of frequent cancer genes mutations.

FROM 11/2006- TO 12/2009

**POST DOCTORAL RESEARCHER**

In the laboratory of A. Bardelli

Molecular Oncology Department

Institute for cancer research and cure (IRCCS), Candiolo, Turin (Italy)

## Main activities and responsibilities

I have been in charge of the design, development, and implementation of research projects in the field of cancer genomics and cancer metabolism aimed to:

- Understand the role of specific cancer genetic alterations (oncogenes and tumor suppressors) in tumor development and maintenance, with a particular focus on the crosstalk between molecular and cellular alterations of cancer with the tumor microenvironment;
- Implement isogenic cell line models in order to better understand the molecular and cellular effects of frequent cancer gene mutations;
- Identify molecular pathways involved in cancer metabolic alterations and cancer cell survival under metabolic limitations.

**Sector:** Medical research in molecular and translational oncology and metabolomics.

FROM 7/2002 – TO 11/2006

**POST DOCTORAL RESEARCHER**

In the laboratory of P. Sassone-Corsi

Gene Transcription Department

IGBMC, Strasbourg (France)

## Main activities and responsibilities:

I have been in charge of the design, development, and implementation of research projects aimed to:

- Study the molecular mechanism controlling mammalian circadian clocks;
- Investigate the role of circadian clock dysfunction in human diseases.

**Sector:** Medical research in molecular and cellular physiology.

**EDUCATION AND TRAINING**

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FROM 1999 – TO 2003

**Ph.D. in Molecular and cellular Pathology**

Molecular and Cellular Pathology Department

Medical School; "Federico II" University of Naples (Italy)

## Topic of the research:

Molecular mechanism of intracellular signal transduction:

Focus on the Biological functions of the cAMP-dependent pathway and AKAP121 Protein Family

FROM 1994 – TO 1999

**Degree in Biological Science (magna cum laude)**

School of Biological Science, "Federico II" University of Naples (Italy)

## Topic of research:

Molecular mechanism of intracellular signal transduction:

Focus on the Biological functions of the cAMP-dependent pathway and AKAP121 Protein Family

PERSONAL SKILLS

Mother tongue(s) ITALIAN

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
ENGLISH	C1	C1	C1	C1	C1
FRENCH	C1	C1	C1	C1	A1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user

Job-related skills The success of all my tasks and missions derives from a personal attitude to implement my job with quality, efficiency and accuracy.

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
INDEPENDENT USER	INDEPENDENT USER	INDEPENDENT USER	BASIC USER	BASIC USER

Levels: Basic user - Independent user - Proficient user  
[Digital competences - Self-assessment grid](#)

Other computer skills:

Good command of:

- WINDOWS, MacOS
- MICROSOFT OFFICE
- ADOBE (ILLUSTRATOR, PHOTOSHOP, READER, WRITER)
- IMAGEJ
- PRISM
- BROWSERS

Driving licence B

ADDITIONAL INFORMATION

<b>Conferences participation</b>	2000 25th National Congress of Pathology, Bari-Italy. Oral presentation. 2000 12th Protein kinase symposium, Germany. "NO, cGMP and protein Kinase signalling". Poster presentation. 2001 FASEB summer research conference, Colorado- USA. "Protein kinases & phosphatases". Poster presentation. 2002 EMBO conference, Heidelberg- Germany. "Oncogeneses & Growth control". Poster presentation. 2005 Gordon Research Conference, Newport (RI) -USA, "Chronobiology". Poster Presentation. 2006 EMBO Lab Management course, Heidelberg- Germany 2008 Beatson International cancer conference, Glasgow-Scotland. "Cell growth, metabolism and cancer". 2009 Symposia on Cancer Research- MD Anderson Cancer Center-Houston (Tx) "Cellular Energy, Metabolism and Cancer". Poster presentation. 2010 FEBS workshop on "Therapeutic Targets in Cancer Cell Metabolism & Death". Capri, Naples-Italy. Poster presentation. 2012 Cell Symposia on Angiogenesis, Metabolic Regulation, and Cancer Biology. Katholieke Universiteit, Leuven, Belgium. Poster Presentation. 2013 Cold Spring Haurbor Laboratory Meeting, "Metabolic signaling & disease: from cell to organism". Cold Spring Harbor, NY. Poster presentation. 2015 Abcam conference, "Cancer and Metabolism". Cambridge, UK. Poster Presentation. 2016 EMBO Conference, "Translational Research in cancer cell metabolism". Bilbao, Spain. Poster Presentation. 2017 EACR/AACR/SIC meeting. "From cancer Biology to the clinic". Florence, Italy. Poster Presentation. 2017 EATRIS ANNUAL MEETING, "Translational Medicine", Ljubljana, Slovenia. Invited speaker. 2018 CELL SYMPOSIA, "Translational Immunometabolism", Basel ,Switzerland. Poster presentation. 2019 KEYSTONE SYMPOSIA, "Cancer Metastasis: The role of metabolism, Immunity and the microenvironment", Florence, Italy. Poster Presentation. 2019 ACC meeting "New technologies and strategies to fight cancer", Rome, Italy. Poster presentation.
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<b>Honours and awards</b>	1. EMBO LONG TERM FELLOWSHIP (2003-2006) 2. <i>MARIE CURIE</i> EU MOBILITY FELLOWSHIP PROGRAM (2003-2006) -declined
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<b>RESEARCH GRANTS</b>	ITALIAN MINISTRY OF HEALTH Project: "ricerca finalizzata" n° GR-2011-02351749 AMOUNT: 380.000 EURO Years: 2014-2018  "Nastro viola" Association for Pancreatic Cancer Cure AMOUNT: 25.000 EURO Years: 2019
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<b>Memberships</b>	EUROPEAN ASSOCIATION FOR CANCER RESEARCH (EACR) Year: 2017-today
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**LIST OD SCIENTIFIC  
PUBBLICATIONS  
with Impact Factor (I.F.)**

1. Mottini C, Napolitano F, Li Z, Gao X<sup>\*\*\*</sup>, **Cardone L<sup>\*\*\*</sup>**. Computer-aided drug repurposing for cancer therapy: Approaches and opportunities to challenge anticancer targets. *Semin Cancer Biol.* 2019 Sep 25. pii: S1044-579X(19)30139-7. doi: 10.1016/j.semcancer.2019.09.023. **I.F. 9.65**
2. Mottini C, Tomihara H, Carrella D, Lamolinara A, Iezzi M, Huang JK, Amoreo CA, Buglioni S, Manni I, Robinson FS, Minelli R, Kang Y, Fleming JB, Kim MP, Bristow CA, Trisciuglio D, Iuliano A, Del Bufalo D, di Bernardo D, Melisi D, Draetta GF, Ciliberto G, Carugo A<sup>\*\*\*</sup>, **Cardone L<sup>\*\*\*</sup>**. Predictive signatures inform the effective repurposing of Decitabine to treat K-RAS-dependent Pancreatic Ductal Adenocarcinoma. *Cancer Research*, 2019 Sep 5. pii: canres.0187.2019. doi: 10.1158/0008-5472. **I.F. 8,378**
3. Abbruzzese C, Matteoni S, Signore M, **Cardone L**, Nath K, Glickson JD, Paggi MG. Drug repurposing for the treatment of glioblastoma multiforme. *J Exp Clin Cancer Res.* 2017 Nov 28;36(1):169. **I.F. 6.217**
4. **Cardone L**. Biocomputing drug repurposing toward targeted therapies. *Aging (Albany NY)*. 2016 Nov 30;8(11):2609-2610. doi: 10.18632/aging.101135. **I. F. 5.515**
5. Carrella D, Manni I, Tumaini B, Dattilo R, Papaccio F, Mutarelli M, Sirci F, Amoreo CA, Mottolese M, Iezzi M, Ciolli L, Aria V, Bosotti R, Isacchi A, Loreni F, Bardelli A, Avvedimento E, di Bernardo D and **Cardone L\***. Computational drugs repositioning identifies inhibitors of oncogenic PI3K/AKT/P70S6K-dependent pathways among FDA-approved compounds. *Oncotarget*. 2016. Aug 16. doi: 10.18632/oncotarget.11318. **I.F. 5.168**
6. Ventre S., Indrieri A., Fracassi C., Conte I., Franco B. **Cardone L.\***, and diBernardo D\*. Metabolic regulation of the ultradian oscillator Hes1 by Reactive Oxygen Species . *J Mol Biol.* 2015 May 22;427(10):1887-902. **I.F. 5.067**
7. Gambardella G, Moretti MN, de Cegli R, **Cardone L**, Peron A, di Bernardo D. Differential network analysis for the identification of condition-specific pathway activity and regulation. *Bioinformatics.* 2013 Jul 15;29(14):1776-85. **I.F. 4.531**
8. **Cardone L<sup>\*\*\*</sup>**, Bardelli A , Avvedimento VEA<sup>\*\*\*</sup>. (2012) Activation of  $\beta$ -Catenin by Oncogenic PIK3CA and EGFR Promotes Resistance to Glucose Deprivation by Inducing a Strong Antioxidant Response. *PLoS ONE*. 2012; 7(10):e45266. doi:10.1371/journal.pone.0037526. **I.F. 2.776**
9. Bleeker FE, Felicioni L, Buttitta F, Lamba S, **Cardone L**, Rodolfo M, Scarpa A, Leenstra S, Frattini M, Barbareschi M, Grammasro MD, Sciarrotta MG, Zanon C, Marchetti A, Bardelli A. AKT1(E17K) in human solid tumours. *Oncogene.* 2008 May 26. **I. F. 6.634**
10. Liedtke C, **Cardone L**, Tordai A, Yan K, Gomez HL, Figureoa LJ, Hubbard RE, Valero V, Souchon EA, Symmans WF, Hortobagyi GN, Bardelli A, Pusztai L. PIK3CA-activating mutations and chemotherapy sensitivity in stage II-III breast cancer. *Breast Cancer Res.* 2008 Mar 27;10(2):R27. **I.F. 5.676**
11. **Cardone L**, Hirayama J, Giordano F., Tamaru T. and Paolo Sassone-Corsi. Circadian Clock Control by SUMOylation of BMAL1. *2005 Science* Aug 26; 309(5739) :1390-4. **I.F. 41.063**
12. **Cardone L.\*\***, Hirayama J\*\*, Doi M. and Paolo Sassone-Corsi. Common Pathways in Circadian and Cell Cycle Clocks : Light-dependent Activation of Fos/AP-1 in Zebrafish Control CRY1a and WEE-1. *2005 Proc.Natl.Acad.Sci.* 2005; Jul 19; 102(29):10194-9. **I.F. 9.580**
13. Hirayama J, Kaneko M, **Cardone L**, Cahill G, Sassone-Corsi P. Analysis of circadian rhythms in zebrafish. *Methods Enzymol.* 2005; 393:186-204. **I.F. 1.862**
14. Yildiz O, Doi M, Yujnovsky I, **Cardone L**, Berndt A, Hennig S, Schulze S, Urbanke C, Sassone-Corsi P, Wolf E. Crystal structure and interactions of the PAS repeat region of the Drosophila clock protein PERIOD. *Mol Cell.* 2005 Jan 7; 17(1):69-82. **I. F. 14.548**
15. **Cardone, L**, Sassone-Corsi, P. Timing the cell cycle. *Nat Cell Biol.* 2003 Oct;5(10):859-61. **I.F. 17.728**
16. Cermakian N, Pando MP, Doi M, Cardone L, Yujnovsky I, Morse D, Sassone-Corsi P. On the communication pathways between the central pacemaker and peripheral oscillators. *Novartis Found Symp.* 2003;253:126-36; discussion 136-9.
17. **Cardone, L\*\***, Carlucci A\*\*, Affaitati A, Livigni A, DeCristofaro T, Garbi C, Varrone S, Ullrich A, Gottesman ME, Avvedimento EV, Feliciello A. Mitochondrial AKAP121 binds and targets protein tyrosine phosphatase D1, a novel positive regulator of src signaling. *Mol Cell Biol.* 2004 Jun;24(11):4613-26. **I.F. 3.735**

LIST OD SCIENTIFIC  
PUBBLICATIONS  
with Impact Factor (I.F.)

18. **Cardone, L.**, Affaitati, A., De Cristofaro, T., Carlucci, A., Ginsberg, MD, Varrone, S., Gottesman, ME, Avvedimento, VE, Feliciello, A. (2003) Essential role of A-kinase anchor protein 121 for cAMP signalling to mitochondria. J Biol Chem. Feb 7; 278(6):4286-94. **I.F. 4.106**
19. Indolfi, C., Di Lorenzo E, Perrino C., Stingone AM, Curcio A, Torella, D., Cittadini A., **Cardone L.**, Coppola C, Cavuto L, Arcucci O, Sacca L, Avvedimento EV, Chiariello M. (2002) Hydroxymethylglutaryl coenzyme A reductase inhibitor simvastatin prevents cardiac hypertrophy induced by pressure overload and inhibits p21ras activation. Circulation. Oct 15; 106(16):2118-24. **I. F. 23.054**
20. **Cardone, L.**, De Cristofaro, T., Affaitati A, Garbi C, Ginsberg, MD, Saviano, M., Varrone, S., Rubin, CS, Avvedimento, VE, Gottesman, M., Feliciello, A. (2002) A kinase anchor protein 84/121 are targeted to mitochondria and mitotic spindles by overlapping amino-terminal motifs. J Mol Biol. Jul 12; 320(3):663-75. **I.F. 5.067**
21. Feliciello, A., **Cardone, L.**, Garbi, C., Ginsberg, MD, Varrone, S., Rubin, CS, Avvedimento, VE, Gottesman, ME. (1999) Yotiao protein, a ligand for the NMDA receptor, binds and targets cAMP-dependent protein kinase II. FEBS Lett. Dec 31; 464(3):174-8. **I.F. 2.675**

\* Co-last authors

\*\* Co-first authors

\*\*\* Co-corresponding authors

- **H-INDEX: 14 (out of self-citation, Source: SCOPUS)**
- **TOTAL CITATIONS: >1000**
- **TOTAL IMPACT FACTOR: 183,03**

Il/La sottoscritto/a, consapevole delle sanzioni penali richiamate dall'art. 76 del D.P.R. 8/12/00 n. 445 in caso di dichiarazioni mendaci, di falsità negli atti e uso di atti falsi e della decadenza dei benefici eventualmente conseguenti al provvedimento emanato sulla base di dichiarazioni non veritiere di cui all'art. 75 del D.P.R. del 28/12/00 n. 445, ai sensi e per gli effetti dell'art. 47 del citato D.P.R. 445/2000 sotto la propria responsabilità dichiara che quanto riportato nel presente CV corrisponde al vero. Inoltre, avvalendosi dell'art. 46 del citato D.P.R. 445/2000, dichiaro che quanto riportato nel curriculum è sostitutivo dei certificati relativi agli studi, qualità personali e fatti elencati. Infine, la sottoscritta autorizza al trattamento dei dati personali, secondo quanto previsto dal D.L. 30 giugno 2003 n. 196 "Codice in materia di protezione dei dati personali" al solo scopo di trattare, inserire e conservare nella Vs. banca dati tutti i dati contenuti nel presente.

ROMA, 15/02/2020

