

Name	Position Title	Birth date
Laudanna Carlo, MD, PhD	Full Professor of Pathology	10/12/1962

EDUCATION/TRAINING			
Institution and Location	Degree	Completion Date (month/year)	Field of Study
Classic Lyceum, Scipione Maffei, Verona, Italy	Baccalaureate	1976-1981	Humanistic
University of Verona, Italy	Degree	1982-1988	Medicine and Surgery (MD)
University of Verona, Italy	Master	1989-1992	Molecular Biology
University of Verona, Italy	PhD	1992-1996	Molecular and Cellular Biology and Pathology
Stanford University School of Medicine, Stanford, USA	Postdoc	1993-1997	Molecular Immunology

#### POSITIONS:

- 2001-2005: Assistant Professor at the Section of General Pathology, Department of Pathology, University of Verona.
- 2005-2010: Associate Professor of General Pathology at the Department of Pathology, University of Verona.
- 2010-today: Full Professor of General Pathology at the Department of Medicine, University of Verona
- 2001-today: Director of the "Laboratory of Cell Trafficking and Signal Transduction", department of Medicine, University of Verona
- 2006-2012: Director of the "Center for Biomedical Computing" (CBMC), University of Verona

Main research activity is in the field of signal transduction, immune system regulation, inflammation, cancer, bioinformatics and systems biology. Prof. Laudanna main contributions concern the identification of key signaling mechanisms controlling leukocyte trafficking under physio-pathological condition, as well as leukemia cell development and trafficking to secondary lymphoid organs. As President of the Center for Biomedical Computing ([www.cbmc.it](http://www.cbmc.it)), a research center devoted to research in the field of systems biology, and following as CBMC main PI, he coordinated several projects concerning computational analysis of signaling network, with specific focus on phosphoproteomics. He also developed and patented many cell-penetrating peptide tools (CPPs) allowing modulation of many signaling proteins in primary human cells.

#### Prof. Laudanna is co-founder of the following start-ups:

- 2010: Co-founder of the university spin-off Veneto Pharma, focused on the development of new small inhibitory drugs of the integrin VLA-4 to be applied to the therapy in autoimmune diseases (SM) and epilepsy.
- 2014: Co-founder of the US start-up Leuvas, DW, USA, focused on development of treatments for inflammatory and autoimmune diseases, with more specific focus on PTPRG modulating compounds.

#### Prof. Laudanna is inventor of the following international patents:

- (1) Peptide Inhibitors of RHOA Signaling. C. Laudanna, E.C. Butcher. International Patent PCT/US2005/001251 – STAN-346WO - 2004.
- (2) V-ATPASE Inhibitors for the treatment of inflammatory and autoimmune diseases. C. Farina, G. Constantin, C. Laudanna, P. Misiano. International Patent Application 2005, 05110149.1.
- (3) V-ATPASE Inhibitors for the treatment of septic shock. C. Farina, G. Constantin, C. Laudanna, P. Misiano. International Patent Application 2005, 05110163.2.
- (4) Modulators of Protein Tyrosine Phosphate and Uses Thereof. (Leuvas) Application No. 62/109,555, 2015.

#### Prof. Laudanna was consultant for signal transduction systems of the following biotech:

In 2000 was consulting for "intracellular signal transduction systems" of the Systems Biology company "BioSeek", Burlingame, CA, USA ([www.bioseek.com](http://www.bioseek.com)).

From the 2004 was consulting for the chemitechnology company Nikem (Milan) for study of anti-adhesive

drugs in inflammatory diseases ([www.nikemresearch.com](http://www.nikemresearch.com)).

From 2006 was consulting for the biotech KAI, for the development of Trojan nanovectors (CPPs) to modulate the activity PKCs isoforms.

#### MAIN CONTRIBUTIONS TO SCIENCE:

1) Signaling mechanisms controlling leukocyte trafficking. Leukocyte trafficking is controlled by complex signaling events triggered by many environmental cues, including integrin ligands (outside-in signaling) and chemotactic factors (inside-out signaling). In this context prof. Laudanna discovered the critical regulatory role of rho small GTP binding proteins and of zeta PKC in the regulation of integrin activation by classical chemoattractants and chemokines. These findings triggered many further studies related to the role of small GTPases in leukocyte trafficking and the application of inhibitory compounds to therapy of autoimmune diseases and cancer. (Laudanna, C., J.J. Campbell, and E.C. Butcher, *Role of Rho in chemoattractant-activated leukocyte adhesion through integrins*. **Science**, 1996. 271(5251): p. 981-3. Laudanna, C., J.J. Campbell, and E.C. Butcher, *Elevation of intracellular cAMP inhibits RhoA activation and integrin-dependent leukocyte adhesion induced by chemoattractants*. **J Biol Chem**, 1997. 272(39): p. 24141-4. Laudanna, C., et al., *Evidence of zeta protein kinase C involvement in polymorphonuclear neutrophil integrin-dependent adhesion and chemotaxis*. **J Biol Chem**, 1998. 273(46): p. 30306-15. Giagulli, C., et al., *RhoA and zeta PKC control distinct modalities of LFA-1 activation by chemokines: critical role of LFA-1 affinity triggering in lymphocyte in vivo homing*. **Immunity**, 2004. 20(1): p. 25-35. Toffali L, et al. *SOS1, ARHGEF1, and DOCK2 rho-GEFs Mediate JAK-Dependent LFA-1 Activation by Chemokines*. **J Immunol**. 2017 Jan 15;198(2):708-717.

2) Role integrin affinity in leukocyte trafficking. Integrins are fundamental regulators of immune cell adhesion, including cell trafficking and immunological synapse generation and function. A long debated question in the field was the differential and prevalent role of integrin conformational changes (affinity) versus clustering (valency) in the overall regulation of cell recruitment. Prof. Laudanna demonstrated in a seminar paper on Immunity that chemokines control both the aspects of integrin activation, differently involved depending on the nature of the adhesive surface. Furthermore, in a second fundamental contribution, prof. Laudanna demonstrated that integrin affinity activation is differently controlled by distinct signaling events controlled by RhoA, Rac1 small GTPases and by PLD1 and PIP5Kgamma. These findings definitively demonstrated the critical role of high affinity state in the immediate arrest under flow of circulating leukocytes. (Constantin, G., et al., *Chemokines trigger immediate beta2 integrin affinity and mobility changes: differential regulation and roles in lymphocyte arrest under flow*. **Immunity**, 2000. 13(6): p. 759-69. Giagulli, C., et al., *RhoA and zeta PKC control distinct modalities of LFA-1 activation by chemokines: critical role of LFA-1 affinity triggering in lymphocyte in vivo homing*. **Immunity**, 2004. 20(1): p. 25-35. Bolomini-Vittori, M., et al., *Regulation of conformer-specific activation of the integrin LFA-1 by a chemokine-triggered Rho signaling module*. **Nat Immunol**, 2009. 10(2): p. 185-94. Montresor, A., et al., *Chemokines and the signaling modules regulating integrin affinity*. **Front Immunol**, 2012. 3: p. 127).

3) Regulation of dissemination of neoplastic CLL B-lymphocytes. B-cell chronic lymphocytic leukemia (B-CLL) is a common, rather heterogeneous, leukemia, characterized by progressive accumulation of functionally incompetent B-lymphocytes in the bone marrow, blood and lymphoid organs. B-CLL cells are primarily characterized by loss of appropriate apoptosis, although this characteristic is lost when B-CLL cells are removed from the host, clearly suggesting a critical role for micro environmental factors and/or adhesive stromal interactions. B-CLL cells also display altered mechanisms of integrin activation and lymphoid tissue dissemination in response to homeostatic chemokines. In this context, prof. Laudanna demonstrated the patient-specific role of a signaling module based on the function of rho small-GTPases in the regulation of integrin activation by CXCL12 in human isolated B-CLL cells. Moreover, the role of the PTK JAK2 was very recently described, thus highlighting the possibility of novel therapies based on JAK inhibitors in the treatment of B-CLL. (Montresor, A., et al., *Comparative analysis of normal versus CLL B-lymphocytes reveals patient-specific variability in signaling mechanisms controlling LFA-1 activation by chemokines*. **Cancer Res**, 2009. 69(24): p. 9281-90. Montresor A, Toffali L, Mirinda M, Rigo A, Vinante F, Laudanna C. *JAK2 tyrosine kinase mediates integrin activation induced by CXCL12 in B-cell chronic lymphocytic leukemia*. **Oncotarget**. 2015; 6(33):34245-57).

4) Kinome and phosphatome in the regulation of leukocyte trafficking. The very upstream regulators of chemokine-triggered signaling networks leading to integrin affinity triggering have been unknown for many

years. Very recently, prof. Laudanna discovered the critical role of the JAK2 and JAK3 PTKs in the overall regulation of the rho-module of integrin affinity modulation. Moreover, in the same study, prof. Laudanna provided the first formal demonstration that rho and rap-small GTPases belong to a hierarchic cascade of signaling events, concurrently regulating leukocyte trafficking. More recently, prof. Laudanna provided the first demonstration of the negative regulatory role of the protein tyrosine phosphatase PTPRG in integrin activation by chemoattractants in human primary monocytes (Montresor A, Bolomini-Vittori M, Toffali L, Rossi B, Constantin G, Laudanna C. *JAK tyrosine kinases promote hierarchical activation of Rho and Rap modules of integrin activation. J Cell Biol.* 2013 Dec 23;203(6):1003-19. Mirinda M, Toffali L, Montresor A, Scardoni G, Sorio C, Laudanna C. *Protein Tyrosine Phosphatase Receptor Type  $\gamma$  Is a JAK Phosphatase and Negatively Regulates Leukocyte Integrin Activation. J Immunol.* 2015 Mar 1;194(5):2168-79.

5) Network science. The growing complexity of biological networks, as emerging from the application of medium-high throughput 'omics and imaging technologies, urges the development and application of novel, more efficient, computational methods in order to extract all the information stored in the complexity of biological network structure. Prof. Laudanna coordinated several projects leading to development of computational tools allowing automated topological network inference and analysis of a variety of biological networks in physio-pathological contexts, with a specific focus on centrality index computation and multidimensional network analysis of proteomics data sets. (Scardoni G, et al. *Node Interference and Robustness: Performing Virtual Knock-Out Experiments on Biological Networks: The Case of Leukocyte Integrin Activation Network.* (2014) *PLoS ONE* 9(2); Scardoni, G, et al. *Analyzing biological network parameters with CentiScaPe.* (2009) *Bioinformatics*, 25 (21), 2857-2859; Karnovsky A, et al., *Metscape 2 bioinformatics tool for the analysis and visualization of metabolomics and gene expression data.* (2012) *Bioinformatics* 28(3):373-380; De Franceschi L, et al. *Computational identification of phospho-tyrosine sub-networks related to acanthocytes generation in neuroacanthocytosis.* (2015) *PLoS ONE* 7(2); Scardoni G and Laudanna C. *Identifying critical road network areas with node centralities interference and robustness.* (2013) *Springer Berlin Heidelberg, Studies in Computational Intelligence*, 424, 245-255; Scardoni G and Laudanna C. *Network centralities Interference and Robustness.* (2011) *Int.J.Comp.Syst.Sci.* 1(2), pp.164-168; Scardoni G and Laudanna C. "Graph Theory", book chapter: *Centralities based analysis of networks.* InTech, open access publisher.

## Publications

1: Cavallini C, Chignola R, Dando I, Perbellini O, Mimiola E, Lovato O, Laudanna C, Pizzolo G, Donadelli M, Scupoli MT. Low catalase expression confers redox hypersensitivity and identifies an indolent clinical behavior in CLL. *Blood.* 2018 Feb 21. pii: blood-2017-08-800466. doi: 10.1182/blood-2017-08-800466. [Epub ahead of print] PubMed PMID: 29467184.

2: Giagulli C, D'Ursi P, He W, Zorzan S, Caccuri F, Varney K, Orro A, Marsico S, Otjacques B, Laudanna C, Milanesi L, Dolcetti R, Fiorentini S, Lu W, Caruso A. A single amino acid substitution confers B-cell clonogenic activity to the HIV-1 matrix protein p17. *Sci Rep.* 2017 Jul 26;7(1):6555. doi: 10.1038/s41598-017-06848-y. PubMed PMID: 28747658; PubMed Central PMCID: PMC5529431.

3: Del Prete A, Martínez-Muñoz L, Mazzon C, Toffali L, Sozio F, Za L, Bosisio D, Gazzarelli L, Salvi V, Tiberio L, Liberati C, Scanziani E, Vecchi A, Laudanna C, Mellado M, Mantovani A, Sozzani S. The atypical receptor CCRL2 is required for CXCR2-dependent neutrophil recruitment and tissue damage. *Blood.* 2017 Sep 7;130(10):1223-1234. doi: 10.1182/blood-2017-04-777680. Epub 2017 Jul 25. PubMed PMID: 28743719.

5: Di Silvestre D, Brambilla F, Scardoni G, Brunetti P, Motta S, Matteucci M, Laudanna C, Recchia FA, Lionetti V, Mauri P. Proteomics-based network analysis characterizes biological processes and pathways activated by preconditioned mesenchymal stem cells in cardiac repair mechanisms. *Biochim Biophys Acta.* 2017 May;1861(5 Pt A):1190-1199. doi: 10.1016/j.bbagen.2017.02.006. Epub 2017 Mar 7. PubMed PMID: 28286014.

6: Toffali L, Montresor A, Mirenda M, Scita G, Laudanna C. SOS1, ARHGEF1, and DOCK2 rho-GEFs Mediate JAK-Dependent LFA-1 Activation by Chemokines. *J Immunol.* 2017 Jan 15;198(2):708-717. doi: 10.4049/jimmunol.1600933. Epub 2016 Dec 16. PubMed PMID: 27986909.

9: Tosadori G, Bestvina I, Spoto F, Laudanna C, Scardoni G. Creating, generating and comparing random network models with NetworkRandomizer. Version 3. *F1000Res.* 2016 Oct 17 [revised 2017 Jan 1];5:2524. doi: 10.12688/f1000research.9203.3. eCollection 2016. PubMed PMID: 29188012; PubMed Central PMCID: PMC5686481.

13: Sorio C, Montresor A, Bolomini-Vittori M, Caldrier S, Rossi B, Dusi S, Angiari S, Johansson JE, Vezzalini M, Leal T, Calcaterra E, Assael BM, Melotti P, Laudanna C. Mutations of Cystic Fibrosis Transmembrane Conductance Regulator Gene Cause a Monocyte-Selective Adhesion Deficiency. *Am J Respir Crit Care Med.* 2016 May 15;193(10):1123-33. doi: 10.1164/rccm.201510-1922OC. PubMed PMID: 26694899.

14: Montresor A, Toffali L, Mirenda M, Rigo A, Vinante F, Laudanna C. JAK2 tyrosine kinase mediates integrin activation induced by CXCL12 in B-cell chronic lymphocytic leukemia. *Oncotarget.* 2015 Oct 27;6(33):34245-57. doi: 10.18632/oncotarget.5196. PubMed PMID: 26413812; PubMed Central PMCID: PMC4741449.

15: Scardoni G, Tosadori G, Pratap S, Spoto F, Laudanna C. Finding the shortest path with PesCa: a tool for network reconstruction. Version 2. *F1000Res.* 2015 Aug 5 [revised 2016 Jan 1];4:484. eCollection 2015. PubMed PMID: 27781081; PubMed Central PMCID: PMC5054806.

16: Bellisola G, Bolomini Vittori M, Cinque G, Dumas P, Fiorini Z, Laudanna C, Mirenda M, Sandt C, Silvestri G, Tomasello L, Vezzalini M, Wehbe K, Sorio C. Unsupervised explorative data analysis of normal human leukocytes and BCR/ABL positive leukemic cells mid-infrared spectra. *Analyst.* 2015 Jul 7;140(13):4407-22. doi: 10.1039/c5an00148j. PubMed PMID: 25988195.

17: Mirenda M, Toffali L, Montresor A, Scardoni G, Sorio C, Laudanna C. Protein tyrosine phosphatase receptor type  $\gamma$  is a JAK phosphatase and negatively regulates leukocyte integrin activation. *J Immunol.* 2015 Mar 1;194(5):2168-79. doi: 10.4049/jimmunol.1401841. Epub 2015 Jan 26. PubMed PMID: 25624455.

18: Angiari S, Donnarumma T, Rossi B, Dusi S, Pietronigro E, Zenaro E, Della Bianca V, Toffali L, Piacentino G, Budui S, Rennert P, Xiao S, Laudanna C, Casasnovas JM, Kuchroo VK, Constantin G. TIM-1 glycoprotein binds the adhesion receptor P-selectin and mediates T cell trafficking during inflammation and autoimmunity. *Immunity.* 2014 Apr 17;40(4):542-53. doi: 10.1016/j.immuni.2014.03.004. Epub 2014 Apr 3. PubMed PMID: 24703780; PubMed Central PMCID: PMC4066214.

19: Scardoni G, Montresor A, Tosadori G, Laudanna C. Node interference and robustness: performing virtual knock-out experiments on biological networks: the case of leukocyte integrin activation network. *PLoS One.* 2014 Feb 20;9(2):e88938. doi: 10.1371/journal.pone.0088938. eCollection 2014. PubMed PMID: 24586448; PubMed Central PMCID: PMC3930642.

20: Scardoni G, Tosadori G, Faizan M, Spoto F, Fabbri F, Laudanna C. Biological network analysis with CentiScaPe: centralities and experimental dataset integration. Version 2. *F1000Res.* 2014 Jul 1 [revised 2015 Jan 1];3:139. doi: 10.12688/f1000research.4477.2. eCollection 2014. PubMed PMID: 26594322; PubMed Central PMCID: PMC4647866.

21: Montresor A, Bolomini-Vittori M, Toffali L, Rossi B, Constantin G, Laudanna C. JAK tyrosine kinases promote hierarchical activation of Rho and Rap modules of integrin activation. *J Cell Biol.* 2013 Dec 23;203(6):1003-19. doi: 10.1083/jcb.201303067. PubMed PMID: 24368807; PubMed Central PMCID: PMC3871442.

- 22: Pancione M, Remo A, Zanella C, Sabatino L, Di Blasi A, Laudanna C, Astatì L, Rocco M, Bifano D, Piacentini P, Pavan L, Purgato A, Greco F, Talamini A, Bonetti A, Ceccarelli M, Vendraminelli R, Manfrin E, Colantuoni V. The chromatin remodelling component SMARCB1/INI1 influences the metastatic behavior of colorectal cancer through a gene signature mapping to chromosome 22. *J Transl Med*. 2013 Nov 28;11:297. doi: 10.1186/1479-5876-11-297. PubMed PMID: 24286138; PubMed Central PMCID: PMC4220786.
- 23: Angiari S, Rossi B, Piccio L, Zinselmeyer BH, Budui S, Zenaro E, Della Bianca V, Bach SD, Scarpini E, Bolomini-Vittori M, Piacentino G, Dusi S, Laudanna C, Cross AH, Miller MJ, Constantin G. Regulatory T cells suppress the late phase of the immune response in lymph nodes through P-selectin glycoprotein ligand-1. *J Immunol*. 2013 Dec 1;191(11):5489-500. doi: 10.4049/jimmunol.1301235. Epub 2013 Oct 30. PubMed PMID: 24174617; PubMed Central PMCID: PMC4627945.
- 24: Pagnotta SM, Laudanna C, Pancione M, Sabatino L, Votino C, Remo A, Cerulo L, Zoppoli P, Manfrin E, Colantuoni V, Ceccarelli M. Ensemble of gene signatures identifies novel biomarkers in colorectal cancer activated through PPAR $\gamma$  and TNF $\alpha$  signaling. *PLoS One*. 2013 Aug 19;8(8):e72638. doi: 10.1371/journal.pone.0072638. eCollection 2013. PubMed PMID: 24133572; PubMed Central PMCID: PMC3795784.
- 25: Colangelo T, Fucci A, Votino C, Sabatino L, Pancione M, Laudanna C, Binaschi M, Bigioni M, Maggi CA, Parente D, Forte N, Colantuoni V. MicroRNA-130b promotes tumor development and is associated with poor prognosis in colorectal cancer. *Neoplasia*. 2013 Sep;15(9):1086-99. PubMed PMID: 24027433; PubMed Central PMCID: PMC3769887.
- 26: Lorenzetto E, Ettore M, Pontelli V, Bolomini-Vittori M, Bolognin S, Zorzan S, Laudanna C, Buffelli M. Rac1 selective activation improves retina ganglion cell survival and regeneration. *PLoS One*. 2013 May 29;8(5):e64350. doi: 10.1371/journal.pone.0064350. Print 2013. PubMed PMID: 23734197; PubMed Central PMCID: PMC3667179.
- 27: Zorzan S, Lorenzetto E, Ettore M, Pontelli V, Laudanna C, Buffelli M. HOMECAT: consensus homologs mapping for interspecific knowledge transfer and functional genomic data integration. *Bioinformatics*. 2013 Jun 15;29(12):1574-6. doi: 10.1093/bioinformatics/btt189. Epub 2013 Apr 24. PubMed PMID: 23620364.
- 28: Fabene PF, Laudanna C, Constantin G. Leukocyte trafficking mechanisms in epilepsy. *Mol Immunol*. 2013 Aug;55(1):100-4. doi: 10.1016/j.molimm.2012.12.009. Epub 2013 Jan 23. PubMed PMID: 23351392.
- 29: Rougerie P, Largeteau Q, Megrelis L, Carrette F, Lejeune T, Toffali L, Rossi B, Zeghouf M, Cherfils J, Constantin G, Laudanna C, Bismuth G, Mangeney M, Delon J. Fam65b is a new transcriptional target of FOXO1 that regulates RhoA signaling for T lymphocyte migration. *J Immunol*. 2013 Jan 15;190(2):748-55. doi: 10.4049/jimmunol.1201174. Epub 2012 Dec 14. PubMed PMID: 23241886.
- 30: Montresor A, Toffali L, Constantin G, Laudanna C. Chemokines and the signaling modules regulating integrin affinity. *Front Immunol*. 2012 May 25;3:127. doi: 10.3389/fimmu.2012.00127. eCollection 2012. PubMed PMID: 22654882; PubMed Central PMCID: PMC3360201.
- 31: De Franceschi L, Scardoni G, Tomelleri C, Danek A, Walker RH, Jung HH, Bader B, Mazzucco S, Dotti MT, Siciliano A, Pantaleo A, Laudanna C. Computational identification of phospho-tyrosine sub-networks related to acanthocyte generation in neuroacanthocytosis. *PLoS One*. 2012;7(2):e31015. doi: 10.1371/journal.pone.0031015. Epub 2012 Feb 15. PubMed PMID: 22355334; PubMed Central PMCID: PMC3280254.
- 32: Sabatino L, Fucci A, Pancione M, Carafa V, Nebbioso A, Pistore C, Babbio F, Votino C, Laudanna C, Ceccarelli M, Altucci L, Bonapace IM, Colantuoni V. UHRF1

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- 33: Constantin G, Laudanna C. Transmigration of effector T lymphocytes: changing the rules. *Nat Immunol*. 2011 Dec 16;13(1):15-6. doi: 10.1038/ni.2188. PubMed PMID: 22179273.
- 34: Karnovsky A, Weymouth T, Hull T, Tarcea VG, Scardoni G, Laudanna C, Sartor MA, Stringer KA, Jagadish HV, Burant C, Athey B, Omenn GS. Metscape 2 bioinformatics tool for the analysis and visualization of metabolomics and gene expression data. *Bioinformatics*. 2012 Feb 1;28(3):373-80. doi: 10.1093/bioinformatics/btr661. Epub 2011 Nov 30. PubMed PMID: 22135418; PubMed Central PMCID: PMC3268237.
- 35: Graziano F, Elia C, Laudanna C, Poli G, Alfano M. Urokinase plasminogen activator inhibits HIV virion release from macrophage-differentiated chronically infected cells via activation of RhoA and PKC $\epsilon$ . *PLoS One*. 2011;6(8):e23674. doi: 10.1371/journal.pone.0023674. Epub 2011 Aug 17. PubMed PMID: 21858203; PubMed Central PMCID: PMC3157461.
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- 37: Kempf T, Zarbock A, Widera C, Butz S, Stadtmann A, Rossaint J, Bolomini-Vittori M, Korf-Klingebiel M, Napp LC, Hansen B, Kanwischer A, Bavendiek U, Beutel G, Hapke M, Sauer MG, Laudanna C, Hogg N, Vestweber D, Wollert KC. GDF-15 is an inhibitor of leukocyte integrin activation required for survival after myocardial infarction in mice. *Nat Med*. 2011 May;17(5):581-8. doi: 10.1038/nm.2354. Epub 2011 Apr 24. PubMed PMID: 21516086.
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- 40: Constantin G, Laudanna C. Leukocyte chemotaxis: from lysosomes to motility. *Nat Immunol*. 2010 Jun;11(6):463-4. doi: 10.1038/ni0610-463. PubMed PMID: 20485271.
- 41: Della Peruta M, Giagulli C, Laudanna C, Scarpa A, Sorio C. RHOA and PRKCZ control different aspects of cell motility in pancreatic cancer metastatic clones. *Mol Cancer*. 2010 Mar 17;9:61. doi: 10.1186/1476-4598-9-61. PubMed PMID: 20236512; PubMed Central PMCID: PMC2846889.
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- B, Mantovani A. Regulation of leukocyte recruitment by the long pentraxin PTX3. *Nat Immunol.* 2010 Apr;11(4):328-34. doi: 10.1038/ni.1854. Epub 2010 Mar 7. PubMed PMID: 20208538.
- 43: Constantin G, Laudanna C. A deadly migration. *Immunity.* 2010 Feb 26;32(2):147-9. doi: 10.1016/j.immuni.2010.02.003. PubMed PMID: 20189478.
- 44: Montresor A, Bolomini-Vittori M, Simon SI, Rigo A, Vinante F, Laudanna C. Comparative analysis of normal versus CLL B-lymphocytes reveals patient-specific variability in signaling mechanisms controlling LFA-1 activation by chemokines. *Cancer Res.* 2009 Dec 15;69(24):9281-90. doi: 10.1158/0008-5472.CAN-09-2009. PubMed PMID: 19934331.
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