

Azeddine Atfi, PhD

Professor

Chair of the Division of Cellular and Molecular Pathogenesis

Department of Pathology

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Education

Postgraduate Medical Training

1995-1998: Research Fellow, INSERM U482, Saint-Antoine Hospital, Paris, France

Subject: Mechanisms of TGF- β signaling

1993-1995: Postdoctoral fellow, McGill University, Montreal, Canada

Graduate Education

1989-1992: Ph.D., University of Rennes 1, France (Molecular and Cellular Biology)

1988-1989: MSc, University of Rennes 1, France (Molecular and Cellular Biology)

Awards

Excellence in Research Award, UMMC (2012-2014)

Aventis Award, France (2000)

Ligue contre le Cancer Award, France (1997)

Sanofi Award, France (1996)

La Fondation pour la Recherche Medicale Award, France (1992)

Doctoral Award, high distinction, Centre Regional de la Recherche en

Endocrinologie Award, France (1989-1992)

Recent Grants

Ongoing Research Support

1R01CA21110911 **04/01/2017 – 03/31/2022**

NCI/NIH

Targeting the TGIF/Twist1 network in osteosarcoma.
Role: Atfi Principal Investigator

PR162051 **08/01/2017 – 01/31/2019**

Department of Defense, DOD
Investigating the Role of TGIF in Beta Cell Function and Diabetes
Role: Atfi Principal Investigator

1R0CA194447 **04/01/2015 - 03/31/20120**

NIH-NCI
Bi-directional interactions with tumor microenvironment enhance BRCA1-IRIS overexpressing TNBC tumor cell aggressiveness.
Role: Atfi Co-investigator (Wael ElShamy, Principal Investigator)

Completed Research (within last 3 years)

PR152164 **06/01/2016 - 11/30/2017**

Department of Defense, DOD
Investigating the role of Twist1 in diabetes pathogenesis
Role: Atfi Principal Investigator

1R01AR059070 **09/01/2010 – 06/30/2016**

NIH/NIAMS
Role of TGIF in Wnt-induced bone formation
Role: Atfi Principal Investigator

1R01AR057769 **09/10/2010 – 09/09/2015**

NIH/NIAMS
Role: Atfi Co-investigator (Roland Baron, Principal investigator)

Recent Publications

Parjuli P, Kumar S, Loumaye A, Singh P, Eragmerdi S, Nguyen TL, Ozkan S, Razzaque M, Prunier C, Thissen JP and **Atfi A**. Twist1 activation in muscle progenitor cells during development or adulthood causes severe muscle loss reminiscent of human cancer cachexia. **Developmental Cell**, Jun 18:712-725

(2018).

Erker E, Neyret-Kahn H, Seeler J, Dejean A, **Atfi A** and Laurence Levy. Arkadia, a novel SUMO-targeted ubiquitin ligase for PML degradation. **Molecular and Cellular Biology**, 33: 2163-2177 (2017).

Vallabhaneni KC, Hassler MY, Abraham A, Whitt J, Mo YY, **Atfi A**, Pochampally R. Mesenchymal Stem/Stromal Cells under Stress Increase Osteosarcoma Migration and Apoptosis Resistance via Extracellular Vesicle Mediated Communication. **PLoS One**, Nov 3;11(11):e0166027 (2016).

Singh R, Gupta SC, Peng WX, Zhou N, Pochampally R, **Atfi A**, Watabe K, Lu Z, Mo YY. Regulation of alternative splicing of Bcl-x by BC200 contributes to breast cancer pathogenesis. **Cell Death and Disease**, Jun 9;7(6):e2262 (2016).

Dhar S, Kumar A, Zhang L, Rimando AM, Lage JM, Lewin JR, **Atfi A**, Zhang X, Levenson AS. Dietary pterostilbene is a novel MTA1-targeted chemopreventive and therapeutic agent in prostate cancer. **Oncotarget**, 7:18469-18484 (2016).

Razzaque MS, **Atfi A**. TGIF function in oncogenic Wnt signaling. **Biochimica et Biophysica Acta**, 1865:101-104 (2016).

Courivaud T, Ferrand N, Elkhattouti A, Kumar S, Levy L, Ferrigno O, **Atfi A**, Prunier C. Functional Characterization of a WWP1/Tiul1 Tumor-derived Mutant Reveals a Paradigm of Its Constitutive Activation in Human Cancer. **Journal of Biological Chemistry**, 290: 21007-21018 (2015).

Zhang MZ, Ferrigno O, Ohnishi M, Hesse E, Ferrand N, Prunier C, Razzaque M, Horne WC, Colland F, Baron R, **Atfi A**. TGIF Governs a feed-forward Network that empowers Wnt signaling to drive mammary tumorigenesis. **Cancer Cell**, 27: 547-60 (2015).

Prunier C, Zhang M-Z, Ohnishi M, Kumar S, Ferrigno O, Tzivion G, Levy L and **Atfi A**. PML-RAR α drives acute promyelocytic leukaemia by inactivating the PHRF1 tumor suppressor. **Cell Reports**, 10: 883-890 (2015).

Ramakrishnan G, Davaakhuu G, Chung WC, Zhu H, Rana A, Filipovic A, Green AR, **Atfi A**, Pannuti A, Miele L, Tzivion G. AKT and 14-3-3 regulate Notch4 nuclear localization. **Science Reports**, 5:8782 (2015).

Ramakrishnan G, Davaakhuu G, Kaplun L, Chung WC, Rana A, **Atfi A**, Miele L, and Tzivion G. Sirt2 deacetylase is a novel AKT binding partner critical for AKT activation by insulin. **Journal of Biological Chemistry**, 289: 6054-6066 (2014).

Ettahar A, Ferrigno O, Zhang MZ, Ferrand N, Prunier C, Bourgeade MF, Bieche I, Colland F and **Atfi A**. Identification of PHRF1 as a tumor Suppressor that promotes the TGF- β cytostatic program through release of TGIF-driven PML inactivation. **Cell Reports**, 4: 530-541 (2013).

Erker E, Neyret-Kahn H, Seeler J, Dejean A, **Atfi A** and Laurence Levy. Arkadia, a novel SUMO-targeted ubiquitin ligase for PML degradation. **Molecular and Cellular Biology**, 33: 2163-2177 (2013).

Zaarour RF, Chirivino D, Del Maestro L, Daviet L, **Atfi A**, Louvard D, and Arpin M. Ezrin ubiquitylation by the E3 ubiquitin ligase, WWP1, and consequent regulation of Hepatocyte Growth Factor receptor activity. **Plos One**, 7: e37490 (2012).

Ohnishi M, Kato S, Akiyoshi J, **Atfi A**, Razzaque MS. Dietary and genetic evidence for enhancing glucose metabolism and reducing obesity by inhibiting klotho functions. **FASEB Journal**, 25:2031-2039 (2011).

Ferrand N, **Atfi A** and Prunier C. The Oncoprotein c-Ski Functions as a Direct Antagonist of the Transforming Growth Factor- β Type I Receptor. **Cancer Research**, 70: 8457-8466 (2010).

Hesse E, Saito H, Kiviranta R, Correra D, Yamana, K, Neff L, Toben D, Duda G, **Atfi A**, Geoffroy V, Horne WC and Baron R. Zfp521 controls bone mass by HDAC3-dependent attenuation of Runx2 activity. **Journal of Cell Biology**, 191: 1271-1283 (2010).

Correa D, Hesse E, Seriwatanachai D, Kiviranta R, Saito H, Yamana K, Neff L, **Atfi A**, Coillard L, Sitara D, Maeda Y, Warming S, Jenkins NA, Copeland NG, Horne

WC, Lanske B and Baron R. Zfp521 Is a Target Gene and Key Effector of Parathyroid Hormone-Related Peptide Signaling in Growth Plate Chondrocytes. **Developmental Cell**, 19: 533-546 (2010).

Atfi A and Baron R. PTH battles TGF- β in bone. **Nature Cell Biology**, 12: 205-207 (2010).

Hesse E, Kluge G, **Atfi A**, Correa D, Haasper C, Berding G, Shin HO, Viering J, Länger F, Vogt PM, Krettek C and Jagodzinski M. Repair of a segmental long bone defect in human by implantation of a novel multiple disc graft. **Bone**, 46: 1457-1463 (2010).

Hesse E, Kiviranta R, Wu M, Saito H, Yamana K, Correa D, Atfi A and Baron R. Zinc finger protein 521, a new player in bone formation. **Annals of the New York Academy of Sciences**, 1192: 32-37 (2010).

Demange C, Ferrand N, Prunier C, Bourgeade MF and **Atfi A**. A model of Partnership Co-opted by the homeodomain protein TGIF and the ubiquitin ligase for effective execution of TNF- α cytotoxicity. **Molecular Cell**, 36: 1073-1085 (2009).

Battaglia S, Benzoubir N, Nobilet S, Charneau P, Samuel D, Zignego AL, **Atfi A**, Bréchet C and Bourgeade MF. Liver cancer-derived hepatitis C virus core proteins shift TGF- β responses from tumor suppression to epithelial-mesenchymal transition. **PLoS One**, 4(2):e4355 (2009).

Feng SM, Muraoka-Cook RS, Hunter D, Sandahl MA, Caskey LS, Miyazawa K, **Atfi A** and Earp SH. The E3 Ubiquitin-Ligase WWP1 Promotes HER4 Degradation. **Molecular and Cellular Biology**, 29: 892-906 (2009).

Atfi A and Barron R. p53 brings a new twist to the Smad signaling network. **Science Signaling**, July 1, p33 (2008).

Faresse N, Colland F, Ferrand N, Prunier C, Bourgeade MF and **Atfi A**. Identification of PCTA, a TGIF antagonist that promotes PML function in TGF- β signaling. **EMBO Journal**, 27:1804-1815 (2008).

Milliat F, Sabourin JC, Tarlet G, Holler V, Deutsch E, Buard V, Tamarat R, **Atfi A**, Benderitter M and François A. Essential role of plasminogen activator

inhibitor type-1 in radiation enteropathy. **American Journal of Pathology**,
172: 691-701 (2008).