
Mohamed Rahmani, Ph.D

Current Appointment: Associate Professor of Medicine

Institution: College of Medicine, University of Sharjah.

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PROFESSIONAL PROFILE

Primary area: Cancer Biology and targeted therapy

Areas of expertise and interest:

- Identification of new therapeutic targets in cancer with particular interest in hematological malignancies using large screen with shRNA or CRISPR technologies.
 - Elucidation of the molecular mechanisms of actions of various anti-cancer agents in diverse tumor types.
 - Discovery of genetic and molecular biomarkers predictive of patients' response or resistance to novel agents in cancer, particularly hematological malignancies.
 - Development of novel therapeutic approaches in cancer particularly hematological malignancies involving immunotherapy or targeted therapy with small molecule inhibitors.
 - Other areas of expertise include tumor microenvironment, stem cells, cell signaling, epigenetics, Cancer initiation and progression,..
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EDUCATION

1999: Ph.D. Cellular and Molecular Biology
University of Denis Diderot (Jussieux), INSERM U327, Paris, France
Honor: Summa cum laude

1996: M.S. Cellular and Molecular Biology
University of Denis Diderot (Jussieux), INSERM U327, Paris, France
Honor: cum laude

1995: B.S. Cellular and Molecular Biology, University of Pierre et Marie Curie, Paris, France

ACADEMIC APPOINTMENTS

2017 - present: Associate Professor, Department of Basic Medical sciences, College of Medicine, University of Sharjah.

2010 - present: Associate Professor, Department of Internal Medicine, Massey Cancer Center Virginia Commonwealth University, Richmond, VA.

2005 - 2010: Assistant Professor, Department of Internal Medicine, Massey Cancer Center Virginia Commonwealth University, Richmond, VA.

2003 - 2005: Instructor, Department of Internal Medicine, Massey Cancer Center, Virginia Commonwealth University, Richmond, VA.

2000 - 2003: Post-doctoral associate, Department of Internal Medicine, Virginia Commonwealth University, Richmond, VA.

SPECIAL AWARDS AND HONORS

- Recipient of fellowship for postdoctoral training abroad from the Association of Cancer Research "ARC": 2000-2001
 - Recipient of AACR award for highly rated abstract; AACR Annual Meeting 2009; April 18-22, Denver CO.
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MEMBERSHIP IN SCIENTIFIC OR PROFESSIONAL SOCIETIES

- Active member of American Association for Cancer Research (AACR).
 - Active member of American Society of Hematology (ASH).
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SCIENTIFIC AND SCHOLARLY ACTIVITIES

- **Ad hoc reviewer for:** Cancer Research, Blood, Molecular cancer therapeutics, PLoS One, Molecular Pharmacology, Fundamental & Clinical Pharmacology, European Journal of Pharmacology, Current Cancer Drug targets, Cancer Biology & Therapy, core Evidence, Expert Review of Hematology, International Journal of Molecular Sciences, Molecular Cell Research,..
- Associate Editor of Journal of Cancer Research & Therapy (JCRT).
- Member of the advisory board of OA Cancer Journal.
- **Grant review for:**
 - Sheikh Hamdan Medical Research Grant in the United Arab Emirates
 - Terry Fox Foundation for Cancer Research.

● GRANTS AND CONTRACTS

- 5130427FN (Grant, PI): Co-targeting B-Cell Receptor Signaling and Resistance Responses
09/01/2015 - 08/31/2017.
V Foundation for Cancer Research
Role: Coinvestigator
- R01 CA167708 01(Grant, PI): Targeting AML with PI3K/AKT inhibitors and BH3-mimetics.
01/14/12 to 12/31/17
NIH/NCI
Role: Co-PD/PI
- P50 CA130805 (R. Fisher): Potentiation of sorafenib-mediated cell death in Non-Hodgkin's lymphoma.
04/01/09 to 03/31/10
NCI/NIH: Specialized Programs of Research Excellence (SPORE) in Lymphoma Developmental Award.
Role: Principal investigator
- P50 CA130805 (R. Fisher): Improving proteasome inhibitor activity in NHL.
08/01/08 to 07/31/12,
NCI/NIH: SPORE in Lymphoma.
Role: Coinvestigator (Grant, PI).
- V Foundation 2007 Translational Research: 5160054FN. Reestablishing the Leukemia Cell Death Program with Sorafenib and Bcl-2 Antagonists.
11/01/07 to 10/31/10
The V Foundation.
Role: Coinvestigator
- R01 CA093738-05 (Grant, PI). NF-kappaB Inhibitors and Differentiation-Inducers in Leukemia.
08/01/07 to 07/31/12
NIH/NCI.
Role: Coinvestigator
- DAMD17-03-1-0209; 5/21/03 - 05/20/06. Histone Deacetylase Inhibitor-Based Strategies for Imatinib-Resistant CML
DOD.
Role: Coinvestigator

● RESEARCH ADVISING AND MENTORING:

I have mentored many students including undergraduate (5) and graduate students (3), medical residents and fellows (5), research specialists (12) as well as postdoctoral fellows (2) and junior faculty (1).

● PEER-REVIEWED PUBLICATIONS

1. **Rahmani M**, Nkuocha J, Hawkins E, Pei X, Parker R, Kmiecik M, Levenson L, Sampath D, Ferreira-Gonzalez A, Grant S. Co-targeting BCL-2 and PI3K/mTOR potently induces BAX-dependent mitochondrial apoptosis in AML cells. Submitted to **Blood**.
2. Nguyen T, Parker R, Hawkins E, Yazbeck Y, Kolluri A, Kmiecik M, **Rahmani M**, Grant S. Synergistic interactions between PLK1 and HDAC inhibitors in non-Hodgkin's lymphoma cells occur in vitro and in vivo and proceed through multiple mechanisms. **Oncotarget**, 2017;8(19):31478-31493
3. Zhou L, Chen S, Zhang Y, Kmiecik M, Leng Y, Li L, Lin H, Rizzo AK, Dumur IC, Ferreira-Gonzalez A, **Rahmani M**, Povirk L, Chalasani S, Berger J.A, Dai Y, Grant S. The NAE inhibitor pevonedistat interacts with the HDAC inhibitor belinostat to target AML cells by disrupting the DDR. **Blood**, in press.
4. Klionsky DJ, Abdelmohsen K, Abe A, Abedin MJ, Abeliovich H, Acevedo Arozena A, Adachi H, Adams CM, Adams PD, Adeli K, Adihetty PJ, Adler SG, Agam G, Agarwal R, Aghi MK, Agnello M, Agostinis P, Aguilar PV, Aguirre-Ghiso J, Airoidi EM, Ait-Si-Ali S, Akematsu T, Akporiaye ET, Al-Rubeai M, Albaiceta GM, Albanese C, Albani D, Albert ML, Aldudo J, Algül H, Alirezaei M, Alloza I, Almasan A, ...**Rahmani M**, ...Zughaier SM. Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition). **Autophagy**. 2016;12(1):1-222.
5. Toor AA, Toor AA, **Rahmani M**, Manjili MH. On the organization of human T-cell receptor loci: log-periodic distribution of T-cell receptor gene segments. **J R Soc Interface** 2016;13(114):20150911.
6. Sperlazza J, **Rahmani M**, Beckta J, Aust M, Hawkins E, Wang SZ, Zu Zhu S, Podder S, Dumur C, Archer K, Grant S, Ginder GD. Depletion of the chromatin remodeler CHD4 sensitizes AML blasts to genotoxic agents and reduces tumor formation. **Blood**. 2015;126(12):1462-72
7. **Rahmani M**, Aust MM, Hawkins E, Parker RE, Ross M, Kmiecik M, Reshko LB, Rizzo KA, Dumur CI, Ferreira-Gonzalez A, Grant S. Co-administration of the mTORC1/TORC2 inhibitor INK128 and the Bcl-2/Bcl-xL antagonist ABT-737 kills human myeloid leukemia cells through Mcl-1 down-regulation and AKT inactivation. **Haematologica**. 2015;100(12):1553-63.
8. **Rahmani M**, Aust MM, Benson EC, Wallace L, Friedberg J, Grant S. PI3K/mTOR inhibition markedly potentiates HDAC inhibitor activity in NHL cells through BIM- and MCL-1-dependent mechanisms in vitro and in vivo. **Clin Cancer Res**. 2014;20(18):4849-60.
9. Vachhani P, Bose P, **Rahmani M**, Grant S. Rational combination of dual PI3K/mTOR blockade and Bcl-2/-xL inhibition in AML. **Physiol Genomics**. 2014;46(13):448-56.
10. Cazanave C.S, Wang X, Zho H, **Rahmani M**, Grant S, Durrant E.D, Klaassen D.C, Yamamoto M and Sanyal J.A. Degradation of Keap1 Activates BH3-only Proteins Bim and PUMA During Hepatocyte Lipoapoptosis. **Cell Death and Differentiation**. 2014;21(8):1303-12.
11. **Rahmani M**, Aust MM, Attkisson E, Williams DC Jr, Ferreira-Gonzalez A, Grant S. Dual inhibition of Bcl-2 and Bcl-xL strikingly enhances PI3K inhibition-induced apoptosis in human myeloid

- leukemia cells through a GSK3- and Bim-dependent mechanism. **Cancer Res.** 2013;15;73(4):1340-51.
12. Bose P, **Rahmani M**, Grant S. Coordinate PI3K pathway and Bcl-2 family disruption in AML. **Oncotarget.** 2012;3(12):1499-500.
 13. **Rahmani M**, Aust MM, Attkisson E, Williams DC Jr, Ferreira-Gonzalez A, Grant S. Inhibition of Bcl-2 antiapoptotic members by obatoclax potently enhances sorafenib-induced apoptosis in human myeloid leukemia cells through a Bim-dependent process. **Blood.** 2012;119(25):6089-98.
 14. **Rahmani M**, Mayo M, Dash R, Sokhi UK, Dmitriev IP, Sarkar D, Dent P, Curiel DT, Fisher PB, Grant S. Melanoma differentiation associated gene-7/interleukin-24 potently induces apoptosis in human myeloid leukemia cells through a process regulated by endoplasmic reticulum stress. **Mol Pharmacol.** 2010;78(6):1096-104.
 15. Dash R, Bhutia SK, Azab B, Su ZZ, Quinn BA, Kegelman TP, Das SK, Kim K, Lee SG, Park MA, Yacoub A, **Rahmani M**, Emdad L, Dmitriev IP, Wang XY, Sarkar D, Grant S, Dent P, Curiel DT, Fisher PB. mda-7/IL-24: a unique member of the IL-10 gene family promoting cancer-targeted toxicity. **Cytokine Growth Factor Rev.** 2010;21(5):381-91. Review.
 16. Dash R, Azab B, Quinn BA, Shen X, Wang XY, Das SK, **Rahmani M**, Wei J, Hedvat M, Dent P, Dmitriev IP, Curiel DT, Grant S, Wu B, Stebbins JL, Pellecchia M, Reed JC, Sarkar D, Fisher PB. Apogossypol derivative BI-97C1 (Sabutoclax) targeting Mcl-1 sensitizes prostate cancer cells to mda-7/IL-24-mediated toxicity. **Proc Natl Acad Sci U S A.** 2011;108(21):8785-90.
 17. Quinn BA, Dash R, Azab B, Sarkar S, Das SK, Kumar S, Oyesanya RA, Dasgupta S, Dent P, Grant S, **Rahmani M**, Curiel DT, Dmitriev I, Hedvat M, Wei J, Wu B, Stebbins JL, Reed JC, Pellecchia M, Sarkar D, Fisher PB. Targeting Mcl-1 for the therapy of cancer. **Expert Opin Investig Drugs.** 2011;20(10):1397-411. Review.
 18. Dent P, Yacoub A, Hamed HA, Park MA, Dash R, Bhutia SK, Sarkar D, Wang XY, Gupta P, Emdad L, Lebedeva IV, Sauane M, Su ZZ, **Rahmani M**, Broaddus WC, Young HF, Lesniak M, Grant S, Curiel DT, Fisher PB. The development of MDA-7/IL-24 as a cancer therapeutic. **Pharmacol Ther.** 2010;128(2):375-84. Review.
 19. Dent P, Yacoub A, Hamed HA, Park MA, Dash R, Bhutia SK, Sarkar D, Gupta P, Emdad L, Lebedeva IV, Sauane M, Su ZZ, **Rahmani M**, Broaddus WC, Young HF, Lesniak M, Grant S, Curiel DT, Fisher PB. MDA-7/IL-24 as a cancer therapeutic: from bench to bedside. **Anticancer Drugs.** 2010;21(8):725-731.
 20. Dash R, Richards JE, Su ZZ, Bhutia SK, Azab B, **Rahmani M**, Dasmahapatra G, Yacoub A, Dent P, Dmitriev IP, Curiel DT, Grant S, Pellecchia M, Reed JC, Sarkar D, Fisher PB. Mechanism by which Mcl-1 regulates cancer-specific apoptosis triggered by mda-7/IL-24, an IL-10-related cytokine. **Cancer Res.** 2010;70(12):5034-45.
 21. Walker T, Mitchell C, Park MA, Yacoub A, **Rahmani M**, Häussinger D, Reinehr R, Voelkel-Johnson C, Fisher PB, Grant S, Dent P. 17-allylamino-17-demethoxygeldanamycin and MEK1/2 inhibitors kill GI tumor cells via Ca²⁺-dependent suppression of GRP78/BiP and induction of ceramide and reactive oxygen species. **Mol Cancer Ther.** 2010;9(5):1378-95
 22. **Rahmani M**, Anderson A, Habibi JR, Crabtree TR, Mayo M, Harada H, Ferreira-Gonzalez A, Dent P, Grant S. The BH3-only protein Bim plays a critical role in leukemia cell death triggered by concomitant inhibition of the PI3K/Akt and MEK/ERK1/2 pathways. **Blood.** 2009;114:4507-16.

23. Martin AP, Mitchell C, **Rahmani M**, Nephew KP, Grant S, Dent P. Inhibition of MCL-1 enhances lapatinib toxicity and overcomes lapatinib resistance via BAK-dependent autophagy. **Cancer Biol Ther.** 2009;8(21):2084-96.
24. Park MA, Walker T, Martin AP, Allegood J, Vozhilla N, Emdad L, Sarkar D, **Rahmani M**, Graf M, Yacoub A, Koumenis C, Spiegel S, Curiel DT, Voelkel-Johnson C, Grant S, Fisher PB, Dent P. MDA-7/IL-24-induced cell killing in malignant renal carcinoma cells occurs by a ceramide/CD95/PERK-dependent mechanism. **Mol Cancer Ther.** 8 (5), 1280-1291.
25. Walker T, Mitchell C, Park MA, Yacoub A, Graf M, **Rahmani M**, Houghton PJ, Voelkel-Johnson C, Grant S, Dent P. Sorafenib and Vorinostat kill colon cancer cells by CD95-dependent and - independent mechanisms. **Mol Pharmacol.** 76:342-55.
26. Martin AP, Park MA, Mitchell C, Walker T, **Rahmani M**, Thorburn A, Haussinger D, Reinehr R, Grant S, Dent P. BCL-2 family inhibitors enhance HDACI+sorafenib lethality via autophagy and overcome blockade of the extrinsic pathway to facilitate killing. **Mol Pharmacol.** 76:327-41.
27. Zhang G, Park MA, Mitchell C, Hamed H, **Rahmani M**, Martin AP, Curiel DT, Yacoub A, Graf M, Lee R, Roberts JD, Fisher PB, Grant S, Dent P. Vorinostat and sorafenib synergistically kill tumor cells via FLIP suppression and CD95 activation. **Clin Cancer Res.** 2008;14:5385-99.
28. Park MA, Zhang G, Martin AP, Hamed H, Mitchell C, Hylemon PB, Graf M, **Rahmani M**, Ryan K, Liu X, Spiegel S, Norris J, Fisher PB, Grant S, Dent P. Vorinostat and sorafenib increase ER stress, autophagy and apoptosis via ceramide-dependent CD95 and PERK activation. **Cancer Biol Ther.** 7(10):1648-62.
29. Park MA, Zhang G, Mitchell C, **Rahmani M**, Hamed H, Hagan MP, Yacoub A, Curiel DT, Fisher PB, Grant S, Dent P. Mitogen-activated protein kinase kinase 1/2 inhibitors and 17-allylamino-17 demethoxygeldanamycin synergize to kill human gastrointestinal tumor cells in vitro via suppression of c-FLIP-s levels and activation of CD95. **Mol Cancer Ther.** 2008;7:2633-48.
30. Zhang G, Park MA, Mitchell C, Walker T, Hamed H, Studer E, Graf M, **Rahmani M**, Gupta S, Hylemon PB, Fisher PB, Grant S, Dent P. Multiple cyclin kinase inhibitors promote bile acid - induced apoptosis and autophagy in primary hepatocytes via p53 - CD95 -dependent signaling. **J Biol Chem.** 2008;283:24343-58.
31. Paugh SW, Paugh BS, **Rahmani M**, Kapitonov D, Almenara JA, Kordula T, Milstien S, Adams JK, Zipkin RE, Grant S, Spiegel S. A selective sphingosine kinase 1 inhibitor integrates multiple molecular therapeutic targets in human leukemia. **Blood**, 2008;112:1382-91
32. Yacoub A1, Gupta P, Park MA, **Rhamani M**, Hamed H, Hanna D, Zhang G, Sarkar D, Lebedeva IV, Emdad L, Koumenis C, Curiel DT, Grant S, Fisher PB, Dent P. Regulation of GST-MDA-7 toxicity in human glioblastoma cells by ERBB1, ERK1/2, PI3K, and JNK1-3 pathway signaling. **Mol Cancer Ther.** 2008;7(2):314-29.
33. Martin AP, Miller A, Emdad L, **Rahmani M**, Walker T, Mitchell C, Hagan MP, Park MA, Yacoub A, Fisher PB, Grant S, Dent P. Lapatinib resistance in HCT116 cells is mediated by elevated MCL-1 expression, decreased BAK activation, and not by ERBB receptor mutation. **Mol Pharmacol.** 2008;74:807-22
34. Park MA, Yacoub A, **Rahmani M**, Zhang G, Hart L, Hagan MP, Calderwood SK, Sherman MY, Koumenis C, Spiegel S, Chen CS, Graf M, Curiel DT, Fisher PB, Grant S, Dent P. OSU-03012 stimulates PKR-like endoplasmic reticulum-dependent increases in 70-kDa heat shock protein

expression, attenuating its lethal actions in transformed cells. **Mol Pharmacol.** 2008;73(4):1168-84.

35. Yacoub A, Park MA, Gupta P, **Rahmani M**, Zhang G, Hamed H, Hanna D, Sarkar D, Lebedeva IV, Emdad L, Sauane M, Vozhilla N, Spiegel S, Koumenis C, Graf M, Curiel DT, Grant S, Fisher PB, Dent P. Caspase-, cathepsin-, and PERK-dependent regulation of MDA-7/IL-24-induced cell killing in primary human glioma cells. **Mol Cancer Ther.** 2008;7(2):297-313.
36. Park MA, Yacoub A, Sarkar D, Emdad L, **Rahmani M**, Spiegel S, Koumenis C, Graf M, Curiel DT, Grant S, Fisher PB, Dent P. PERK-dependent regulation of MDA-7/IL-24-induced autophagy in primary human glioma cells. **Autophagy.** 2008;4:513-5.
37. **Rahmani M**, Nguyen TK, Dent P, Grant S. The multikinase inhibitor sorafenib induces apoptosis in highly imatinib mesylate-resistant bcr/abl+ human leukemia cells in association with signal transducer and activator of transcription 5 inhibition and myeloid cell leukemia-1 down-regulation. **Mol Pharmacol.** 2007;72:788-95.
38. **Rahmani M**, Davis EM, Crabtree TR, Habibi JR, Nguyen TK, Dent P, Grant S. The kinase inhibitor sorafenib induces cell death through a process involving induction of endoplasmic reticulum stress. **Mol Cell Biol.** 2007;27:5499-513.
39. Nguyen TK, **Rahmani M**, Harada H, Dent P, Grant S. MEK1/2 inhibitors sensitize BCR/ABL+ human leukemia cells to the dual Abl/Src inhibitor BMS-354/825. **Blood.** 2007; 109:4006-15.
40. Gao N, Kramer L, **Rahmani M**, Dent P, Grant S. The three-substituted indolinone cyclin-dependent kinase 2 inhibitor 3-[1-(3H-imidazol-4-yl)-meth-(Z)-ylidene]-5-methoxy-1,3-dihydro-indol-2-one (SU9516) kills human leukemia cells via down-regulation of Mcl-1 through a transcriptional mechanism. **Mol Pharmacol.** 2006;70:645-55.
41. Nguyen TK, **Rahmani M**, Pei X-Y, Kramer L, Corbin AS, Druker BJ, Dent P, Grant S. Synergistic interactions between DMAG and mitogen-activated protein kinase kinase 1/2 inhibitors in Bcr/abl+ leukemia cells sensitive and resistant to imatinib mesylate. **Clin Cancer Res.** 2006;12:2239-47.
42. Gao N, **Rahmani M**, Shi X, Dent P, Grant S. Synergistic antileukemic interactions between 2-methoxyestradiol (2-ME) and histone deacetylase inhibitors involve Akt down-regulation and oxidative stress. **Blood.** 2006;107:241-9.
43. **Rahmani M**, Davis EM, Bauer C, Dent P, Grant S. Apoptosis induced by the kinase inhibitor BAY 43-9006 in human leukemia cells involves down-regulation of Mcl-1 through inhibition of translation. **J Biol Chem.** 2005;280:35217-27.
44. Pei XY, Dai Y, **Rahmani M**, Li W, Dent P, Grant S. The farnesyltransferase inhibitor L744832 potentiates UCN-01-induced apoptosis in human multiple myeloma cells. **Clin Cancer Res.** 2005;11(12):4589-600.
45. Gao N, **Rahmani M**, Dent P, Grant S. 2-Methoxyestradiol-induced apoptosis in human leukemia cells proceeds through a reactive oxygen species and Akt-dependent process. **Oncogene.** 2005;24(23):3797-809.
46. **Rahmani M**, Reese E, Dai Y, Bauer C, Payne SG, Dent P, Spiegel S, Grant S. Coadministration of histone deacetylase inhibitors and perifosine synergistically induces apoptosis in human leukemia cells through Akt and ERK1/2 inactivation and the generation of ceramide and reactive oxygen species. **Cancer Res.** 2005;65:2422-32.

47. Hahn M, Li W, Yu C, **Rahmani M**, Dent P, Grant S. Rapamycin and UCN-01 synergistically induce apoptosis in human leukemia cells through a process that is regulated by the Raf-1/MEK/ERK, Akt, and JNK signal transduction pathways. **Mol Cancer Ther.** 2005;4(3):457-70.
48. Dai Y, **Rahmani M**, Dent P, Grant S. Blockade of histone deacetylase inhibitor-induced RelA/p65 acetylation and NF-kappaB activation potentiates apoptosis in leukemia cells through a process mediated by oxidative damage, XIAP downregulation, and c-Jun N-terminal kinase 1 activation. **Mol Cell Biol.** 2005;25(13):5429-44.
49. **Rahmani M**, Reese E, Dai Y, Bauer C, Kramer LB, Huang M, Jove R, Dent P, Grant S. Cotreatment with suberoylanilide hydroxamic acid and 17-allylamino 17-demethoxygeldanamycin synergistically induces apoptosis in Bcr-Abl+ Cells sensitive and resistant to STI571 (imatinib mesylate) in association with down-regulation of Bcr-Abl, abrogation of signal transducer and activator of transcription 5 activity, and Bax conformational change. **Mol Pharmacol.** 2005;67:1166-76.
50. Dai Y, **Rahmani M**, Pei XY, Khanna P, Han SI, Mitchell C, Dent P, Grant S. Farnesyltransferase inhibitors interact synergistically with the Chk1 inhibitor UCN-01 to induce apoptosis in human leukemia cells through interruption of both Akt and MEK/ERK pathways and activation of SEK1/JNK. **Blood.** 2005;105(4):1706-16.
51. Ahmed W, **Rahmani M**, Dent P, Grant S. The cyclin-dependent kinase inhibitor p21(CIP1/WAF1) blocks paclitaxel-induced G2M arrest and attenuates mitochondrial injury and apoptosis in p53-null human leukemia cells. **Cell Cycle.** 2004;3:1305-11.
52. Pei X-Y, Dai Y, **Rahmani M**, Dent P, Grant S. Contribution of disruption of the nuclear factor-kappaB pathway to induction of apoptosis in human leukemia cells by histone deacetylase inhibitors and flavopiridol. **Mol Pharmacol.** 2004;66:956-63.
53. Dai Y, **Rahmani M**, Corey SJ, Dent P, Grant S. A Bcr/Abl-independent, Lyn-dependent form of imatinib mesylate (STI-571) resistance is associated with altered expression of Bcl-2. **J Biol Chem.** 2004;279:34227-39.
54. Yu C, **Rahmani M**, Dent P, Grant S. The hierarchical relationship between MAPK signaling and ROS generation in human leukemia cells undergoing apoptosis in response to the proteasome inhibitor Bortezomib. **Exp Cell Res.** 2004;295:555-66.
55. Maggio SC, Rosato RR, Kramer LB, Dai Y, **Rahmani M**, Paik DS, Czarnik AC, Payne SG, Spiegel S, Grant S. The histone deacetylase inhibitor MS-275 interacts synergistically with fludarabine to induce apoptosis in human leukemia cells. **Cancer Res.** 2004;64(7):2590-600.
56. Dai Y, **Rahmani M**, Pei XY, Dent P, Grant S. Bortezomib and flavopiridol interact synergistically to induce apoptosis in chronic myeloid leukemia cells resistant to imatinib mesylate through both Bcr/Abl-dependent and -independent mechanisms. **Blood.** 2004;104(2):509-18.
57. **Rahmani M**, Yu C, Dai Y, Reese E, Ahmed W, Dent P, Grant S. Coadministration of the heat shock protein 90 antagonist 17-allylamino-17-demethoxygeldanamycin with suberoylanilide hydroxamic acid or sodium butyrate synergistically induces apoptosis in human leukemia cells. **Cancer Res.** 2003;63(23):8420-7.
58. Yu C, **Rahmani M**, Almenara J, Sausville EA, Dent P, Grant S. Induction of apoptosis in human leukemia cells by the tyrosine kinase inhibitor adaphostin proceeds through a RAF-1/MEK/ERK- and AKT-dependent process. **Oncogene.** 2004;23(7):1364-76.

59. Dai Y, Pei XY, **Rahmani M**, Conrad DH, Dent P, Grant S. Interruption of the NF-kappaB pathway by Bay 11-7082 promotes UCN-01-mediated mitochondrial dysfunction and apoptosis in human multiple myeloma cells. **Blood**. 2004;103(7):2761-70.
60. Yu C, Subler M, **Rahmani M**, Reese E, Krystal G, Conrad D, Dent P, Grant S. Induction of apoptosis in BCR/ABL+ cells by histone deacetylase inhibitors involves reciprocal effects on the RAF/MEK/ERK and JNK pathways. **Cancer Biol Ther**. 2003;2:544-51.
61. Dai Y*, **Rahmani M***, and Grant S. Proteasome inhibitors interact synergistically with cdk inhibitor to induce mitochondrial damage and apoptosis by interrupting the NF-kB pathway in human leukemia cells. **Oncogene**, 2003, 22(46):7108-7122. (* = equal contribution)
62. **Rahmani M**, Yu C, Reese E, Ahmed W, Hirsch K, Dent P, Grant S. Inhibition of PI-3 kinase sensitizes human leukemic cells to histone deacetylase inhibitor-mediated apoptosis through p44/42 MAP kinase inactivation and abrogation of p21(CIP1/WAF1) induction rather than AKT inhibition. **Oncogene**. 2003;22(40):6231-42.
63. Dai Y, **Rahmani M**, Grant S. An intact NF-kappaB pathway is required for histone deacetylase inhibitor-induced G1 arrest and maturation in U937 human myeloid leukemia cells. **Cell Cycle**. 2003;2(5):467-72.
64. Yu C, **Rahmani M**, Conrad D, Subler M, Dent P, Grant S. The proteasome inhibitor bortezomib interacts synergistically with histone deacetylase inhibitors to induce apoptosis in Bcr/Abl+ cells sensitive and resistant to STI571. **Blood**. 2003;102(10):3765-74.
65. Jia W, Yu C, **Rahmani M**, Krystal G, Sausville EA, Dent P, Grant S. Synergistic antileukemic interactions between 17-AAG and UCN-01 involve interruption of RAF/MEK- and AKT-related pathways. **Blood**. 2003;102(5):1824-32.
66. Yu C, **Rahmani M**, Almenara J, Subler M, Krystal G, Conrad D, Varticovski L, Dent P, Grant S. Histone deacetylase inhibitors promote STI571-mediated apoptosis in STI571-sensitive and -resistant Bcr/Abl+ human myeloid leukemia cells. **Cancer Res**. 2003;63(9):2118-26.
67. Yu C, **Rahmani M**, Dai Y, Conrad D, Krystal G, Dent P, Grant S. The lethal effects of pharmacological cyclin-dependent kinase inhibitors in human leukemia cells proceed through a phosphatidylinositol 3-kinase/Akt-dependent process. **Cancer Res**. 2003;63(8):1822-33.
68. **Rahmani M**, Grant S. UCN-01 (7-hydroxystaurosporine) blocks PMA-induced maturation and reciprocally promotes apoptosis in human myelomonocytic leukemia cells (U937). **Cell Cycle**. 2002;1(4):273-81.
69. **Rahmani M**, Dai Y, Grant S. The histone deacetylase inhibitor sodium butyrate interacts synergistically with phorbol myristate acetate (PMA) to induce mitochondrial damage and apoptosis in human myeloid leukemia cells through a tumor necrosis factor-alpha-mediated process. **Exp Cell Res**. 2002;277(1):31-47.
70. Cartee L, Smith R, Dai Y, **Rahmani M**, Rosato R, Almenara J, Dent P, Grant S. Synergistic induction of apoptosis in human myeloid leukemia cells by phorbol 12-myristate 13-acetate and flavopiridol proceeds via activation of both the intrinsic and tumor necrosis factor-mediated extrinsic cell death pathways. **Mol Pharmacol**. 2002;61(6):1313-21.
71. Yu C, Krystal G, Varticovski L, McKinstry R, **Rahmani M**, Dent P, Grant S. Pharmacologic mitogen-activated protein/extracellular signal-regulated kinase kinase/mitogen-activated protein kinase inhibitors interact synergistically with STI571 to induce apoptosis in Bcr/Abl-expressing human leukemia cells. **Cancer Res**. 2002;62(1):188-99.

72. Peron P, **Rahmani M**, Zagar Y, Durand-Schneider AM, Lardeux B, Bernuau D. Potentiation of Smad transactivation by Jun proteins during a combined treatment with epidermal growth factor and transforming growth factor-beta in rat hepatocytes. Role of phosphatidylinositol 3-kinase-induced AP-1 activation. **J Biol Chem**. 2001; 276(13):10524-31.
73. **Rahmani M**, Peron P, Weitzman J, Bakiri L, Lardeux B, Bernuau D. Functional cooperation between JunD and NF-kappaB in rat hepatocytes. **Oncogene**. 2001; 20(37):5132-42.
74. De Saint Jean M, Debbasch C, **Rahmani M**, Brignole F, Feldmann G, Warnet JM, Baudouin C. Fas- and interferon gamma-induced apoptosis in Chang conjunctival cells: further investigations. **Invest Ophthalmol Vis Sci**. 2000; 41(9):2531-43.
75. **Rahmani M**, Nadori F, Durand-Schneider AM, Lardeux B, Bernuau D. Hepatocyte growth factor activates the AP-1 complex: a comparison between normal and transformed rat hepatocytes. **J Hepatol**. 1999; 30(5):916-25.
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● SCIENTIFIC CONFERENCE PRESENTATIONS

* *Oral presentations*

- **ASH annual meeting 2013, New Orleans, December 10.** Inhibition of PI3K/mTOR by BEZ235 dramatically potentiates panobinostat-induced lethality in diffuse large B-Cell lymphoma through multiple mechanisms.
- **8^{ème} Journée de la Recherche de l'UFR de Médecine Xavier Bichat. Paris,** September 1998. Hepatocyte growth factor (HGF) activates AP-1 complex: comparison between normal and transformed hepatocytes.
- **18^{ème} Forum of cancer, Paris,** Jun 2-3, 1998. Hepatocyte growth factor (HGF)-induced activation of the AP-1 complex differs between normal and transformed rat hepatocytes.
- **EASL, Lisbonne,** April 15-18, 1998. Hepatocyte growth factor (HGF)-induced activation of the AP-1 complex differs between normal and transformed rat hepatocyte.

* *Poster presentations*

Rahmani M, Aust MM, Hawkins E, Parker RE, Reshko L, Ross M, Kmiecik M, Rizzo KA, Dumur CI, Ferreira-Gonzalez A and Grant S. Co-Administration of the mTORC1/TORC2 Inhibitor INK128 and the Bcl-2/Bcl-XI Antagonist ABT-737 Kills Human Myeloid Leukemia Cells through Mcl-1 Down-Regulation and AKT Inactivation. **ASH annual meeting 2015, Orlando.**

Rahmani M, Mayo M, Grant S. E2F1 potentiates proteasome inhibition-mediated cell death in leukemia cells through induction of Noxa. **AACR Annual Meeting 2014, San Diego.**

Rahmani M, Mayo M, Wallace L, Grant S. Inhibition of PI3K/mTOR by BEZ235 dramatically potentiates panobinostat-induced lethality in diffuse large B-Cell lymphoma through multiple mechanisms. Session: 604. Molecular Pharmacology, Drug Resistance: Targeting PI3K/AKT/mTOR, Nuclear Export, and Resistance Mechanisms. Tuesday, December 10, 2013: 7:30 AM. 275-277 (Ernest N. Morial Convention Center). **ASH annual meeting 2013, New Orleans. Abstract 817. Oral presentation.**

Zhou L, Chen S, Lin H, Pei XY, Aust MM, **Rahmani M,** Rosato R, Dai Y, Grant S. A20/TNFAIP3, a novel target of histone deacetylase inhibitor-induced NF- κ B activation, functionally disables the extrinsic apoptotic pathway in human leukemia cells. **AACR Annual Meeting 2013, Washington DC.**

Rahmani M, Mayo M, Dash R, Dent P, Fisher B.P, Grant S. mda-7/IL-24 potently induces apoptosis in human leukemia cells through a process involving induction of ER stress. **AACR Annual Meeting 2010, Washington DC.**

Rahmani M, Mayo M, Dent P, Grant S. Inhibition of Bcl-2 antiapoptotic members by obatoclax dramatically potentiates sorafenib-induced apoptosis in human myeloid leukemia cells through a Bim-dependent process. **AACR Annual Meeting 2010, Washington DC.**

Rahmani M, Anderson A, Habibi J.R, Crabtree T.R, Harada H, Dent P, Grant S. Evidence implicating Bim activation/induction in potentiation of PI3K/Akt inhibitor-mediated apoptosis in human leukemia cells. **AACR Annual Meeting 2009; April 18-22, Denver CO. Received AACR award for highly rated abstract.**

Martin A.P, Mitchell C, **Rahmani M**, Park M, Grant S, Dent P, Thorburn A, Reinehr R. Knock down of BCL-2 family protein expression enhances HDACi+sorafenib toxicity in tumor cells. **AACR Annual Meeting 2009; April 18-22, Denver CO.**

Walker T.D, Mitchell C, Zhang G, Graf M, **Rahmani M**, Voelkel-Johnson C, Park M, Grant S, Dent P. Sorafenib and Vorinostat kill colon cancer cells by CD95-dependent and -independent mechanisms. **AACR Annual Meeting 2009; April 18-22, Denver CO.**

Park M.A, Yacoub A, **Rahmani M**, Zhang G, Hart L, Hagan M.P, Calderwood S.K, Sherman M.Y, Koumenis C, Spiegel S, Chen C-S, Graf M, Curiel D.T, Fisher P.B, Grant S, Dent P. OSU-03012 stimulates PERK-dependent increases in HSP70 expression, attenuating its lethal actions in transformed cells. **AACR Annual Meeting 2008; April 12-16, San Diego CA.**

Dasmahapatra G, **Rahmani M**, Dent P, Grant S. Bcl-2 antagonists interact synergistically with the proteasome inhibitor Bortezomib to induce cell death/apoptosis in diffuse large B cell lymphoma (DLBCL) cells sensitive and resistant to Bortezomib through a JNK-dependent process. **AACR Annual Meeting 2008; April 12-16, San Diego CA.**

Rahmani M, Anderson A, Habibi J.R, Crabtree R.R, Dent P, Grant S. The BH3-only protein Bim plays a critical role in cell death triggered by concomitant inhibition of the PI3K/Akt and MEK/ERK pathways in human leukemia cells. **AACR Annual Meeting 2008; April 12-16, San Diego CA.**

Rahmani M, Davis E.M, Crabtree T.R, Habibi J.R, Nguyen T.K, Dent P, and Grant S. The kinase inhibitor sorafenib induces cell death through a process involving induction of ER stress. **Molecular Targets and Cancer Therapeutics 2007, October 22-26, San Francisco.**

Nguyen T.K, **Rahmani M**, Harada H, Dent P, Grant S. MEK1/2 inhibitors sensitize BCR/ABL+ human leukemia cells to the dual ABL/SRC inhibitor BMS354825. **AACR Annual Meeting 2007, Los Angeles, CA**

Rahmani M, Nguyen T.K, Dent P, Grant S. the multikinase inhibitor sorafenib induces apoptosis in highly imatinib mesylate-resistant bcr/abl+ human leukemia cells in association with stat5 inhibition and mcl-1 down-regulation. **AACR Annual Meeting 2007, Los Angeles, CA**

Dasmahapatra G, Nguyen T, **Rahmani M**, Dai Y, Yerram N, Dent P, Grant S. The multi-kinase inhibitor Sorafenib interacts synergistically with the HDAC inhibitor Vorinostat to induce apoptosis in CML cells in association with downregulation of MCL-1 and p21CIP1. **AACR Annual Meeting 2007, Los Angeles, CA.**

Rosato RR, Maggio S C, Almenara J A, Coe S, **Rahmani M**, Dai Y, Atadja P, Grant S. Synergistic interactions between the HDAC inhibitor NVP-LAQ824 and the nucleoside analog fludarabine in human leukemia cells involve ROS generation and modulation of the NF-kB and JNK pathways. **AACR Annual Meeting 2006, Washington DC.**

Nguyen T, **Rahmani M**, Gao N, Kramer L, Corbin A, Druker B, Dent P, Grant S. Synergistic interactions between the Hsp-90 antagonist DMAG and MEK1/2 inhibitors in Bcr/abl + leukemia cells sensitive and resistant to Imatinib mesylate. **AACR Annual Meeting 2006, Washington DC.**

Rahmani M, Dent P, Grant S. Inhibition of the MEK1/2/ERK1/2 pathway sensitizes human leukemia cells to perifosine-mediated lethality through a JNK-, Akt-, and Mcl-1-dependent process. **AACR Annual Meeting 2006, Washington DC.**

Dai Y, Khanna P, **Rahmani M**, Dent P, and Grant S. HMG-CoA reductase inhibitors synergistically potentiate the lethality of the chk1 inhibitor UCN-01 by interrupting protein Farnesylation in human leukemia cells. **Molecular Targets and Cancer Therapeutics 2005, Philadelphia**

Dasmahapatra G, **Rahmani M**, Dent P and Grant S. The tyrphostin adaphostin interacts synergistically with proteasome inhibitors to induce apoptosis in human leukemia cells through a reactive oxygen species (ROS)-dependent mechanism. **Molecular Targets and Cancer Therapeutics 2005, Philadelphia.**

Rahmani M, Davis EM, Bauer C, Dent P, Grant S. Apoptosis induced by the kinase inhibitor bay 43-9006 in human leukemia cells involves downregulation of MCL-1 through inhibition of translation. **Molecular Targets and Cancer Therapeutics 2005, Philadelphia.**

Pei X-Y, Dai Y, **Rahmani M**, Li W, Dent P, Grant S. The farnesyltransferase inhibitor L744832 potentiates UCN-01- induced apoptosis in human multiple myeloma cells exhibiting conventional and stromal cell-related forms of resistance. **AACR Annual Meeting 2005, Anaheim.**

Gao N, **Rahmani M**, Dent P, Grant S. 2-Methoxyestradiol-induced apoptosis in human leukemia cells proceeds through a reactive oxygen species (ROS) and Akt-dependent process. **AACR Annual Meeting 2005, Anaheim.**

Rahmani M, Reese E, Dai Y, Bauer C, Payne S.G, Dent P, and Grant S. Co-administration of Histone Deacetylase Inhibitors and Perifosine Synergistically Induces Apoptosis in Human Leukemia Cells Through Akt and ERK1/2 Inactivation and the Generation of Ceramide and Reactive Oxygen Species. **AACR Annual Meeting 2005, Anaheim.**

Dai Y, **Rahmani M**, Pei X-Y, Khanna P, Dent P, Grant S. Highly Synergistic Interaction between Farnesyltransferase Inhibitors and the Chk1 Inhibitor UCN-01 to Induce Apoptosis in Human Leukemia Cells through Interruption of Both Akt and MEK/ERK Pathways and Activation of SEK1/JNK. **ASH Annual Meeting 2004, San Diego.**

Rahmani M, Reese E, Dai Y, Bauer C, Kramer L, Huang M, Jove R, Dent P, Grant S. Co-Administration of SAHA and 17-AAG Synergistically Induces Apoptosis in Bcr-Abl⁺ Cells Sensitive and Resistant to STI-571 in Association with Down-Regulation of Bcr-Abl, Abrogation of STAT5 Activity, and Bax Conformational Change. **ASH Annual Meeting 2004, San Diego.**

Rahmani M, Almenara J, Sausville E.A, Dent P, Grant S. Induction of apoptosis in human leukemia cells by the tyrosine kinase inhibitor adaphostin proceeds through a RAF-1/MEK/ERK- and AKT-dependent process. **AACR Annual Meeting 2004, Orlando.**

Maggio S.C, Rosato R.R, Kramer L, Dai Y, **Rahmani M**, Paik D.S, Czarnik A.C, Payne S. G, Spiegel S, Grant S. The histone deacetylase inhibitor Ms-275 interacts synergistically with fludarabine to induce apoptosis in human leukemia cells. **AACR annual meeting 2004, Orlando.**

Rahmani M, Yu C, Dai Y, Resse E, Ahmed W, Dent P, Grant S. Co-administration of the heat shock protein 90 antagonist 17-aag with saha or sodium butyrate synergistically induces apoptosis in human leukemia cells. **AACR annual meeting 2004, Orlando.**

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Yu C, **Rahmani M**, Almenara J, Subler M, Krystal G, Conrad D, Varticovski L, Dent P, Grant S. Histone deacetylase inhibitors promote STI571-mediated apoptosis in Bcr/Abl+ human myeloid leukemia cells sensitive and resistant to STI571. **AACR annual meeting 2003, Washington DC.**

Dai Y, **Rahmani M**, Yu C, Grant S. Proteasome inhibitors interact synergistically with flavopiridol to induce mitochondrial damage and apoptosis by interrupting the NF-kb pathway in human leukemia cells. **AACR annual meeting 2003, Washington DC.**
Rahmani M, and Grant S. UCN-01 (7-hydroxystauorsporine) blocks PMA-induced maturation and reciprocally promotes apoptosis in human myelomonocytic leukemia cells (U937). **AACR 2002, San Francisco.**

Rahmani M and Grant S. The. UCN-01 (7-hydroxystauorsporine) blocks PMA-induced maturation and reciprocally promotes apoptosis in human myelomonocytic leukemia cells (U937). **Research retreat 2002, Richmond June 14.**

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Rahmani M, Grant S. Exposure of Human Myeloid Leukemia Cells to the Histone Deacetylase Inhibitor Sodium Butyrate in Combination with the Phorbol PMA Induces Mitochondrial Damage and Apoptosis through a TNF-Dependent Pathway. **Research retreat 2002, Richmond June 14.**

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Rahmani M, Lardeux B, BERNUAU D. Hepatocyte growth factor (HGF)-induced activation of the AP-1 complex differs between normal and transformed rat hepatocytes. **EASL, Lisbon April 15-18 1998.**

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Nadori F, **Rahmani M**, DURAND-SCHNEIDER A-M, Lardeux B, Bernuau D. La stimulation du complexe AP-1 par des voies de signalisation différentes aboutit à l'activation de dimères AP-1 distincts. **18ème Forum de cancérologie Paris, Jun 2-3 1998.**

Rahmani M, DURAND-SCHNEIDER A-M, Lardeux B, et Bernuau D. L'hépatocyte growth factor (HGF) active le complexe AP-1: comparaison entre les hépatocytes normaux et les hépatocytes transformés. **8ème Journée de la Recherche de l'UFR de Médecine Xavier Bichat. Paris, September 1998.**

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Rahmani M, Malek kiani N, DURAND-SCHNEIDER A-M, BERNUAU D. L'hépatocyte growth factor (HGF) stimule la prolifération des hépatocytes transformés et active le complexe AP-1. **AFFEF, Strasbourg 2-3 October 1997.**