

Collaborative Publications - The Wistar Institute Cancer Center and Helen F. Graham Cancer Center

1. Alicea-Torres K, Sanseviero E, Gui J, Chen J, Veglia F, Yu Q, Donthireddy L, Kossenkov A, Lin C, Fu S, Mulligan C, Nam B, Masters G, Denstman F, Bennett J, Hockstein N, Rynda-Apple A, Nefedova Y, Fuchs SY, Gabrilovich DI. 2021. Immune suppressive activity of myeloid-derived suppressor cells in cancer requires inactivation of the type I interferon pathway. *Nat Commun* 12:1717 PMC7979850.
2. Condamine T, Dominguez GA, Youn J-I, Kossenkov AV, Mony S, Alicea-Torres K, Tcyganov E, Hashimoto A, Nefedova Y, Lin C, Partlova S, Garfall A, Vogl DT, Xu X, Knight SC, Malietzis G, Lee GH, Eruslanov E, Albelda SM, Wang X, Mehta JL, Bewtra M, Rustgi A, Hockstein N, Witt R, Masters G, Nam B, Smirnov D, Sepulveda MA, Gabrilovich DI. 2016. Lectin-type oxidized LDL receptor-1 distinguishes population of human polymorphonuclear myeloid-derived suppressor cells in cancer patients. *Sci Immunol* 1 PMC5391495.
3. Condamine T, Kumar V, Ramachandran IR, Youn J-I, Celis E, Finnberg N, El-Deiry WS, Winograd R, Vonderheide RH, English NR, Knight SC, Yagita H, McCaffrey JC, Antonia S, Hockstein N, Witt R, Masters G, Bauer T, Gabrilovich DI. 2014. ER stress regulates myeloid-derived suppressor cell fate through TRAIL-R-mediated apoptosis. *J Clin Invest* 124:2626-2639. PMC4038578.
4. Dai Y, Knisely A, Yano M, Dang M, Hinchcliff EM, Lee S, Welp A, Chelvanambi M, Lastrapes M, Liu H, Yuan Z, Wang C, Nie H, Jean S, Montaner LJ, Hou J, Patel A, Patel S, Fellman B, Yuan Y, Sun B, Pandurengan RK, Cuentas ERP, Celestino J, Liu Y, Liu J, Hillman RT, Westin SN, Sood AK, Soliman PT, Shafer A, Meyer LA, Gershenson DM, Vining D, Ganeshan D, Lu K, Wargo JA, Peng W, Zhang R, Wang L, Jazaeri AA. 2025. PPP2R1A mutations portend improved survival after cancer immunotherapy. *Nature* 644:537-546. PMC12350166.
5. Deng H, Lin C, Garcia-Gerique L, Fu S, Cruz Z, Bonner EE, Rosenwasser M, Rajagopal S, Sadhu MN, Gajendran C, Zainuddin M, Gosu R, Sivanandhan D, Shelef MA, Nam B, Vogl DT, Gabrilovich DI, Nefedova Y. 2022. A Novel Selective Inhibitor JBI-589 Targets PAD4-Mediated Neutrophil Migration to Suppress Tumor Progression. *Cancer Res* 82:3561-3572. PMC9532374.
6. Dominguez GA, Condamine T, Mony S, Hashimoto A, Wang F, Liu Q, Forero A, Bendell J, Witt R, Hockstein N, Kumar P, Gabrilovich DI. 2017. Selective Targeting of Myeloid-Derived Suppressor Cells in Cancer Patients Using DS-8273a, an Agonistic TRAIL-R2 Antibody. *Clin Cancer Res* 23:2942-2950. PMC5468499.
7. Flynn NJ, Somasundaram R, Arnold KM, Sims-Mourtada J. 2017. The Multifaceted Roles of B Cells in Solid Tumors: Emerging Treatment Opportunities. *Target Oncol* 12:139-152. PMID:28281220.
8. Fu S, Deng H, Bertolini I, Perego M, Chen ES, Sanseviero E, Mostafa A, Alicea-Torres K, Garcia-Gerique L, Stone EL, Kossenkov AV, Schug ZT, Nam B, Mulligan C, Altieri DC, Nefedova Y, Gabrilovich DI. 2022. Syntaphilin Regulates Neutrophil Migration in Cancer. *Cancer Immunol Res* 11:278-289. PMC9991994.
9. Fukumoto T, Park PH, Wu S, Fatkhutdinov N, Karakashev S, Nacarelli T, Kossenkov AV, Speicher DW, Jean S, Zhang L, Wang T-L, Shih I-M, Conejo-Garcia JR, Bitler BG, Zhang R. 2018. Repurposing Pan-HDAC Inhibitors for ARID1A-Mutated Ovarian Cancer. *Cell Rep* 22:3393-3400. PMC5903572.
10. Fukumoto T, Zhu H, Nacarelli T, Karakashev S, Fatkhutdinov N, Wu S, Liu P, Kossenkov AV, Showe LC, Jean S, Zhang L, Zhang R. 2019. N6-Methylation of Adenosine of FZD10 mRNA Contributes to PARP Inhibitor Resistance. *Cancer Res* 79:2812-2820. PMC6548690.

11. Garman B, Anastopoulos IN, Krepler C, Brafford P, Sproesser K, Jiang Y, Wubbenhorst B, Amaravadi R, Bennett J, Beqiri M, Elder D, Flaherty KT, Frederick DT, Gangadhar TC, Guarino M, Hoon D, Karakousis G, Liu Q, Mitra N, Petrelli NJ, Schuchter L, Shannan B, Shields CL, Wargo J, Wenz B, Wilson MA, Xiao M, Xu W, Xu X, Yin X, Zhang NR, Davies MA, Herlyn M, Nathanson KL. 2017. Genetic and Genomic Characterization of 462 Melanoma Patient-Derived Xenografts, Tumor Biopsies, and Cell Lines. *Cell Rep* 21:1936-1952. PMC5709812.
12. Gumireddy K, Li A, Chang DH, Liu Q, Kossenkov AV, Yan J, Korst RJ, Nam BT, Xu H, Zhang L, Ganepola GAP, Showe LC, Huang Q. 2015. AKAP4 is a circulating biomarker for non-small cell lung cancer. *Oncotarget* 6:17637-17647. PMC4627334.
13. Karakashev S, Fukumoto T, Zhao B, Lin J, Wu S, Fatkhutdinov N, Park P-H, Semenova G, Jean S, Cadungog MG, Borowsky ME, Kossenkov AV, Liu Q, Zhang R. 2020. EZH2 Inhibition Sensitizes CARM1-High, Homologous Recombination Proficient Ovarian Cancers to PARP Inhibition. *Cancer Cell* 37:157-167.e6. PMC7155421.
14. Kim R, Hashimoto A, Markosyan N, Tyurin VA, Tyurina YY, Kar G, Fu S, Sehgal M, Garcia-Gerique L, Kossenkov A, Gebregziabher BA, Tobias JW, Hicks K, Halpin RA, Cvetesic N, Deng H, Donthireddy L, Greenberg A, Nam B, Vonderheide RH, Nefedova Y, Kagan VE, Gabrilovich DI. 2022. Ferroptosis of tumour neutrophils causes immune suppression in cancer. *Nature* 612:338-346. PMC9875862.
15. Kossenkov AV, Qureshi R, Dawany NB, Wickramasinghe J, Liu Q, Majumdar RS, Chang C, Widura S, Kumar T, Horng W-H, Konnisto E, Criner G, Tsay J-CJ, Pass H, Yendamuri S, Vachani A, Bauer T, Nam B, Rom WN, Showe MK, Showe LC. 2019. A Gene Expression Classifier from Whole Blood Distinguishes Benign from Malignant Lung Nodules Detected by Low-Dose CT. *Cancer Res* 79:263-273. PMC6317999.
16. Krepler C, Sproesser K, Brafford P, Beqiri M, Garman B, Xiao M, Shannan B, Watters A, Perego M, Zhang G, Vultur A, Yin X, Liu Q, Anastopoulos IN, Wubbenhorst B, Wilson MA, Xu W, Karakousis G, Feldman M, Xu X, Amaravadi R, Gangadhar TC, Elder DE, Haydu LE, Wargo JA, Davies MA, Lu Y, Mills GB, Frederick DT, Barzily-Rokni M, Flaherty KT, Hoon DS, Guarino M, Bennett JJ, Ryan RW, Petrelli NJ, Shields CL, Terai M, Sato T, Aplin AE, Roesch A, Darr D, Angus S, Kumar R, Halilovic E, Caponigro G, Jeay S, Wuerthner J, Walter A, Ocker M, Boxer MB, Schuchter L, Nathanson KL, Herlyn M. 2017. A Comprehensive Patient-Derived Xenograft Collection Representing the Heterogeneity of Melanoma. *Cell Rep* 21:1953-1967. PMC5726788.
17. Kumar V, Cheng P, Condamine T, Mony S, Languino LR, McCaffrey JC, Hockstein N, Guarino M, Masters G, Penman E, Denstman F, Xu X, Altieri DC, Du H, Yan C, Gabrilovich DI. 2016. CD45 Phosphatase Inhibits STAT3 Transcription Factor Activity in Myeloid Cells and Promotes Tumor-Associated Macrophage Differentiation. *Immunity* 44:303-315. PMC4759655.
18. Kumar V, Donthireddy L, Marvel D, Condamine T, Wang F, Lavilla-Alonso S, Hashimoto A, Vonteddu P, Behera R, Goins MA, Mulligan C, Nam B, Hockstein N, Denstman F, Shakamuri S, Speicher DW, Weeraratna AT, Chao T, Vonderheide RH, Languino LR, Ordentlich P, Liu Q, Xu X, Lo A, Puré E, Zhang C, Loboda A, Sepulveda MA, Snyder LA, Gabrilovich DI. 2017. Cancer-Associated Fibroblasts Neutralize the Anti-tumor Effect of CSF1 Receptor Blockade by Inducing PMN-MDSC Infiltration of Tumors. *Cancer Cell* 32:654-668.e5. PMC5827952.
19. Kwak T, Wang F, Deng H, Condamine T, Kumar V, Perego M, Kossenkov A, Montaner LJ, Xu X, Xu W, Zheng C, Schuchter LM, Amaravadi RK, Mitchell TC, Karakousis GC, Mulligan C, Nam B, Masters G, Hockstein N, Bennett J, Nefedova Y, Gabrilovich DI. 2020. Distinct Populations of Immune-Suppressive Macrophages Differentiate from Monocytic Myeloid-Derived Suppressor Cells in Cancer. *Cell Rep* 33:108571 PMC7809772.
20. Mastio J, Condamine T, Dominguez G, Kossenkov AV, Donthireddy L, Veglia F, Lin C, Wang F, Fu S, Zhou J, Viatour P, Lavilla-Alonso S, Polo AT, Teyganov EN, Mulligan C, Nam B, Bennett J, Masters G, Guarino M, Kumar A, Nefedova Y, Vonderheide RH, Languino LR, Abrams SI, Gabrilovich DI. 2019. Identification of monocyte-like precursors of granulocytes in cancer as a mechanism for accumulation of

PMN-MDSCs. *J Exp Med* 216:2150-2169. PMC6719429.

21. Nacarelli T, Fukumoto T, Zundell JA, Fatkhutdinov N, Jean S, Cadungog MG, Borowsky ME, Zhang R. 2020. NAMPT Inhibition Suppresses Cancer Stem-like Cells Associated with Therapy-Induced Senescence in Ovarian Cancer. *Cancer Res* 80:890-900. PMC7024650.
22. Patel S, Fu S, Mastio J, Dominguez GA, Purohit A, Kossenkov A, Lin C, Alicea-Torres K, Sehgal M, Nefedova Y, Zhou J, Languino LR, Clendenin C, Vonderheide RH, Mulligan C, Nam B, Hockstein N, Masters G, Guarino M, Schug ZT, Altieri DC, Gabrilovich DI. 2018. Unique pattern of neutrophil migration and function during tumor progression. *Nat Immunol* 19:1236-1247. PMC6195445.
23. Perales-Puchalt A, Svoronos N, Rutkowski MR, Allegrezza MJ, Tesone AJ, Payne KK, Wickramasinghe J, Nguyen JM, O'Brien SW, Gumireddy K, Huang Q, Cadungog MG, Connolly DC, Tchou J, Curiel TJ, Conejo-Garcia JR. 2016. Follicle-Stimulating Hormone Receptor Is Expressed by Most Ovarian Cancer Subtypes and Is a Safe and Effective Immunotherapeutic Target. *Clin Cancer Res* 23:441-453. PMC5241180.
24. Rutkowski MR, Stephen TL, Svoronos N, Allegrezza MJ, Tesone AJ, Perales-Puchalt A, Brencicova E, Escovar-Fadul X, Nguyen JM, Cadungog MG, Zhang R, Salatino M, Tchou J, Rabinovich GA, Conejo-Garcia JR. 2015. Microbially driven TLR5-dependent signaling governs distal malignant progression through tumor-promoting inflammation. *Cancer Cell* 27:27-40. PMC4293269.
25. Sanseviero E, O'Brien EM, Karras JR, Shabaneh TB, Aksoy BA, Xu W, Zheng C, Yin X, Xu X, Karakousis GC, Amaravadi RK, Nam B, Turk MJ, Hammerbacher J, Rubinstein MP, Schuchter LM, Mitchell TC, Liu Q, Stone EL. 2019. Anti-CTLA-4 Activates Intratumoral NK Cells and Combined with IL15/IL15R α Complexes Enhances Tumor Control. *Cancer Immunol Res* 7:1371-1380. PMC6956982.
26. Shao C, Indeglia A, Foster M, Casey K, Leung J, Modarai SR, Leu JI-J, Duong B, Mes-Masson A-M, Sims-Mourtada J, Auslander N, Drapkin R, Bitler BG, Zhang N, Murphy ME. 2026. Mutant p53 binds and controls estrogen receptor activity to drive endocrine resistance in ovarian cancer. *Genes Dev* 40:199-214. PMC12829591.
27. Siegel SD, Brooks MM, Berman JD, Lynch SM, Sims-Mourtada J, Schug ZT, Curriero FC. 2023. Neighborhood factors and triple negative breast cancer: The role of cumulative exposure to area-level risk factors. *Cancer Med* 12:11760-11772. PMC10242317.
28. Siegel SD, Brooks MM, Lynch SM, Sims-Mourtada J, Schug ZT, Curriero FC. 2022. Racial disparities in triple negative breast cancer: toward a causal architecture approach. *Breast Cancer Res* 24:37 PMC9158353.
29. Siegel SD, Brooks MM, Sims-Mourtada J, Schug ZT, Leonard DJ, Petrelli N, Curriero FC. 2021. A Population Health Assessment in a Community Cancer Center Catchment Area: Triple-Negative Breast Cancer, Alcohol Use, and Obesity in New Castle County, Delaware. *Cancer Epidemiol Biomarkers Prev* 31:108-116. PMC8755608.
30. Singha B, Harper SL, Goldman AR, Bitler BG, Aird KM, Borowsky ME, Cadungog MG, Liu Q, Zhang R, Jean S, Drapkin R, Speicher DW. 2018. CLIC1 and CLIC4 complement CA125 as a diagnostic biomarker panel for all subtypes of epithelial ovarian cancer. *Sci Rep* 8:14725 PMC6170428.
31. Stephen TL, Payne KK, Chaurio RA, Allegrezza MJ, Zhu H, Perez-Sanz J, Perales-Puchalt A, Nguyen JM, Vara-Ailor AE, Eruslanov EB, Borowsky ME, Zhang R, Laufer TM, Conejo-Garcia JR. 2017. SATB1 Expression Governs Epigenetic Repression of PD-1 in Tumor-Reactive T Cells. *Immunity* 46:51-64. PMC5336605.
32. Stephen TL, Rutkowski MR, Allegrezza MJ, Perales-Puchalt A, Tesone AJ, Svoronos N, Nguyen JM, Sarmin F, Borowsky ME, Tchou J, Conejo-Garcia JR. 2014. Transforming growth factor β -mediated suppression of antitumor T cells requires FoxP1 transcription factor expression. *Immunity* 41:427-439. PMC4174366.

33. Svoronos N, Perales-Puchalt A, Allegrrezza MJ, Rutkowski MR, Payne KK, Tesone AJ, Nguyen JM, Curiel TJ, Cadungog MG, Singhal S, Eruslanov EB, Zhang P, Tchou J, Zhang R, Conejo-Garcia JR. 2016. Tumor Cell-Independent Estrogen Signaling Drives Disease Progression through Mobilization of Myeloid-Derived Suppressor Cells. *Cancer Discov* 7:72-85. PMC5222699.
34. Tcyganov EN, Kwak T, Yang X, Poli ANR, Hart C, Bhuniya A, Cassel J, Kossenkov AV, Auslander N, Lu L, Sharma P, Cauti Mendoza MDG, Zhigarev D, Cramer GM, Cadungog MG, Jean S, Chatterjee-Paer S, Weiner DB, Donthireddy L, Bristow B, Zhang R, Tyurin VA, Tyurina YY, Bayir H, Kagan VE, Salvino JM, Montaner LJ. 2025. Targeting LxCxE Cleft Pocket of Retinoblastoma Protein in Immunosuppressive Macrophages Inhibits Ovarian Cancer Progression. *Cancer Immunol Res* 13:1764-1782. PMC12532034.
35. Tesone AJ, Rutkowski MR, Brencicova E, Svoronos N, Perales-Puchalt A, Stephen TL, Allegrrezza MJ, Payne KK, Nguyen JM, Wickramasinghe J, Tchou J, Borowsky ME, Rabinovich GA, Kossenkov AV, Conejo-Garcia JR. 2016. Satb1 Overexpression Drives Tumor-Promoting Activities in Cancer-Associated Dendritic Cells. *Cell Rep* 14:1774-1786. PMC4767618.
36. Veglia F, Hashimoto A, Dweep H, Sanseviero E, De Leo A, Tcyganov E, Kossenkov A, Mulligan C, Nam B, Masters G, Patel J, Bhargava V, Wilkinson P, Smirnov D, Sepulveda MA, Singhal S, Eruslanov EB, Cristescu R, Loboda A, Nefedova Y, Gabrilovich DI. 2021. Analysis of classical neutrophils and polymorphonuclear myeloid-derived suppressor cells in cancer patients and tumor-bearing mice. *J Exp Med* 218 PMC7879582.
37. Veglia F, Tyurin VA, Blasi M, De Leo A, Kossenkov AV, Donthireddy L, To TKJ, Schug Z, Basu S, Wang F, Ricciotti E, DiRusso C, Murphy ME, Vonderheide RH, Lieberman PM, Mulligan C, Nam B, Hockstein N, Masters G, Guarino M, Lin C, Nefedova Y, Black P, Kagan VE, Gabrilovich DI. 2019. Fatty acid transport protein 2 reprograms neutrophils in cancer. *Nature* 569:73-78. PMC6557120.
38. Zhao B, Lin J, Rong L, Wu S, Deng Z, Fatkhutdinov N, Zundell J, Fukumoto T, Liu Q, Kossenkov A, Jean S, Cadungog MG, Borowsky ME, Drapkin R, Lieberman PM, Abate-Shen CT, Zhang R. 2019. ARID1A promotes genomic stability through protecting telomere cohesion. *Nat Commun* 10:4067 PMC6731242.
39. Zou Y, Watters A, Cheng N, Perry CE, Xu K, Alicea GM, Parris JLD, Baraban E, Ray P, Nayak A, Xu X, Herlyn M, Murphy ME, Weeraratna AT, Schug ZT, Chen Q. 2019. Polyunsaturated Fatty Acids from Astrocytes Activate PPAR γ Signaling in Cancer Cells to Promote Brain Metastasis. *Cancer Discov* 9:1720-1735. PMC6891206.

