

20. Golan T, O’Kane GM, Denroche RE, et al. Genomic Features and Classification of Homologous Recombination Deficient Pancreatic Ductal Adenocarcinoma. *Gastroenterology*. 2021;160(6):2119-2132.e9. doi: 10.1053/j.gastro.2021.01.220. Epub 2021 Jan 30. PMID: 33524400.
21. Golan T, Kanji ZS, Epelbaum R, et al. Overall survival and clinical characteristics of pancreatic cancer in BRCA mutation carriers. *Br J Cancer*. 2014;111(6):1132-1138. doi: 10.1038/bjc.2014.418. Epub 2014 Jul 29. PMID: 25072261; PMCID: PMC4453851.
22. Pishvaian MJ, Blais EM, Brody JR, et al. Outcomes in Patients With Pancreatic Adenocarcinoma With Genetic Mutations in DNA Damage Response Pathways: Results From the Know Your Tumor Program. *JCO Precis Oncol*. 2019;3:1-10. doi: 10.1200/PO.19.00115. PMID: 35100730.
23. Park W, Chen J, Chou JF, et al. Genomic Methods Identify Homologous Recombination Deficiency in Pancreas Adenocarcinoma and Optimize Treatment Selection. *Clin Cancer Res*. 2020 Jul 1;26(13):3239-3247. doi: 10.1158/1078-0432.CCR-20-0418. Epub 2020 May 22. PMID: 32444418; PMCID: PMC7380542.
24. Wattenberg MM, Asch D, Yu S, et al. Platinum response characteristics of patients with pancreatic ductal adenocarcinoma and a germline BRCA1, BRCA2 or PALB2 mutation. *Br J Cancer*. 2020;122(3):333-339. doi: 10.1038/s41416-019-0582-7. Epub 2019 Dec 2. PMID: 31787751; PMCID: PMC7000723.
25. Yu S, Agarwal P, Mamtani R, et al. Retrospective Survival Analysis of Patients With Resected Pancreatic Ductal Adenocarcinoma and a Germline BRCA or PALB2 Mutation. *JCO Precis Oncol*. 2019;3:1-11. doi: 10.1200/PO.18.00271. PMID: 35100679.
26. Kaufman B, Shapira-Frommer R, Schmutzler RK, et al. Olaparib monotherapy in patients with advanced cancer and a germline BRCA1/2 mutation. *J Clin Oncol*. 2015;33(3):244-250. doi: 10.1200/JCO.2014.56.2728. Epub 2014 Nov 3. PMID: 25366685; PMCID: PMC6057749.
27. Shroff RT, Hendifar A, McWilliams RR, et al. Rucaparib Monotherapy in Patients With Pancreatic Cancer and a Known Deleterious BRCA Mutation. *JCO Precis Oncol*. 2018;2018:PO.17.00316. doi: 10.1200/PO.17.00316. Epub 2018 May 16. PMID: 30051098; PMCID: PMC6057747.
28. Reiss KA, Mick R, O’Hara MH, et al. Phase II Study of Maintenance Rucaparib in Patients With Platinum-Sensitive Advanced Pancreatic Cancer and a Pathogenic Germline or Somatic Variant in BRCA1, BRCA2, or PALB2. *J Clin Oncol*. 2021;39(22):2497-2505. doi: 10.1200/JCO.21.00003. Epub 2021 May 10. PMID: 33970687.
29. O’Reilly EM, Lee JW, Zalupski M, et al. Randomized, Multicenter, Phase II Trial of Gemcitabine and Cisplatin With or Without Veliparib in Patients With Pancreas Adenocarcinoma and a Germline BRCA/PALB2 Mutation. *J Clin Oncol*. 2020;38(13):1378-1388. doi: 10.1200/JCO.19.02931. Epub 2020 Jan 24. PMID: 31976786; PMCID: PMC7193749.
30. Golan T, Hammel P, Reni M, et al. Maintenance Olaparib for Germline BRCA-Mutated Metastatic Pancreatic Cancer. *N Engl J Med*. 2019;381(4):317-327. doi: 10.1056/NEJMoa1903387. Epub 2019 Jun 2. PMID: 31157963; PMCID: PMC6810605.
31. Kindler HL, Hammel P, Reni M, et al. Overall Survival Results From the POLO Trial: A Phase III Study of Active Maintenance Olaparib Versus Placebo for Germline BRCA-Mutated Metastatic Pancreatic Cancer. *J Clin Oncol*. 2022;40(34):3929-3939. doi: 10.1200/JCO.21.01604. Epub 2022 Jul 14. PMID: 35834777.
32. Reiss KA, Mick R, Teitelbaum U, et al. Niraparib plus nivolumab or niraparib plus ipilimumab in patients with platinum-sensitive advanced pancreatic cancer: a randomized, phase 1b/2 trial. *Lancet Oncol*. 2022;23(8):1009-1020. doi: 10.1016/S1470-2045(22)00369-2. Epub 2022 Jul 7. Erratum in: *Lancet Oncol*. 2022 Oct;23(10):e446. PMID: 35810751; PMCID: PMC9339497.
33. Qian ZR, Rubinson DA, Nowak JA, et al. Association of Alterations in Main Driver Genes With Outcomes of Patients With Resected Pancreatic Ductal Adenocarcinoma. *JAMA Oncol*. 2018;4(3):e173420. doi: 10.1001/jamaoncol.2017.3420. Epub 2018 Mar 8. Erratum in: *JAMA Oncol*. 2019;5(4):579. PMID: 29098284; PMCID: PMC5844844.
34. Strickler JH, Satake H, George TJ, et al. Sotorasib in KRAS p. G12C-Mutated Advanced Pancreatic Cancer. *N Engl J Med*. 2023;388(1):33-43. doi: 10.1056/NEJMoa2208470. Epub 2022 Dec 21. PMID: 36546651.
35. Bekaii-Saab TS, Spira A, Yaeger R, et al. KRYSTAL-1: Updated activity and safety of adagrasib (MRTX849) in patients (Pts) with unresectable or metastatic pancreatic cancer (PDAC) and other gastrointestinal (GI) tumors harboring a KRASG12C mutation. *J Clin Oncol*. 2022;40(suppl 4):519.
36. Wang X, Allen S, Blake JF, et al. Identification of MRTX1133, a Noncovalent, Potent, and Selective KRAS^{G12D} Inhibitor. *J Med Chem*. 2022;65(4):3123-3133. doi: 10.1021/acs.jmedchem.1c01688. Epub 2021 Dec 10. PMID: 34889605.
37. Kemp SB, Cheng N, Markosyan N, et al. Efficacy of a small molecule inhibitor of KrasG12D in immunocompetent models of pancreatic cancer. *Cancer Discov*. 2022 Dec 6;CD-22-1066. doi: 10.1158/2159-8290.CD-22-1066. Epub ahead of print. PMID: 36472553.
38. allin J, Bowcut V, Calinisan A, et al. Anti-tumor efficacy of a potent and selective non-covalent KRAS^{G12D} inhibitor. *Nat Med*. 2022;28(10):2171-2182. doi: 10.1038/s41591-022-02007-7. Epub 2022 Oct 10. PMID: 36216931.
39. Qin S, Bai Y, Wang Z, et al. Nimotuzumab combined with gemcitabine versus gemcitabine in K-RAS wild-type locally advanced or metastatic pancreatic cancer: A prospective, randomized-controlled, double-blinded, multicenter, and phase III clinical trial. *Journal of Clinical Oncology*. 2022;40:17_suppl, LBA4011-LBA4011.
40. Grant RC, Denroche R, Jang GH, et al. Clinical and genomic characterisation of mismatch repair deficient pancreatic adenocarcinoma. *Gut*. 2021;70(10):1894-1903. doi: 10.1136/gutjnl-2020-320730. Epub 2020 Sep 15. PMID: 32933947.
41. Luchini C, Brosens LAA, Wood LD, et al. Comprehensive characterisation of pancreatic ductal adenocarcinoma with microsatellite instability: histology, molecular pathology and clinical implications. *Gut*. 2021;70(1):148-156. doi: 10.1136/gutjnl-2020-320726. Epub 2020 Apr 29. PMID: 32350089; PMCID: PMC7211065.
42. Le DT, Durham JN, Smith KN, et al. Mismatch repair deficiency predicts response of solid tumors to PD-1 blockade. *Science*. 2017;357(6349):409-413. doi: 10.1126/science.aan6733. Epub 2017 Jun 8. PMID: 28596308; PMCID: PMC5576142.
43. Marabelle A, Le DT, Ascierto PA, et al. Efficacy of Pembrolizumab in Patients With Noncolorectal High Microsatellite Instability/Mismatch Repair-Deficient Cancer: Results From the Phase II KEYNOTE-158 Study. *J Clin Oncol*. 2020;38(1):1-10. doi: 10.1200/JCO.19.02105. Epub 2019 Nov 4. PMID: 31682550; PMCID: PMC8184060.
44. Marcus L, Fashoyin-Aje LA, Donoghue M, et al. FDA Approval Summary: Pembrolizumab for the Treatment of Tumor Mutational Burden–High Solid Tumors. *Clin Cancer Res*. 2021;27(17):4685-4689. doi: 10.1158/1078-0432.CCR-21-0327. Epub 2021 Jun 3. PMID: 34083238; PMCID: PMC8416776.
45. Wu HX, Wang ZX, Zhao Q, et al. Tumor mutational and indel burden: a systematic pan-cancer evaluation as prognostic biomarkers. *Ann Transl Med*. 2019;7(22):640. doi: 10.21037/atm.2019.10.116. PMID: 31930041; PMCID: PMC6944566.
46. Singhi AD, George B, Greenbowe JR, et al. Real-Time Targeted Genome Profile Analysis of Pancreatic Ductal Adenocarcinomas Identifies Genetic Alterations That Might Be Targeted With Existing Drugs or Used as Biomarkers. *Gastroenterology*. 2019;156(8):2242-2253.e4. doi: 10.1053/j.gastro.2019.02.037. Epub 2019 Mar 2. PMID: 30836094.
47. Hendifar A, Blais EM, Wolpin B, et al. Retrospective Case Series Analysis of RAFFamily Alterations in Pancreatic Cancer: Real-World Outcomes From Targeted and Standard Therapies. *JCO Precis Oncol*. 2021 Aug 25;5:PO.20.00494. doi: 10.1200/PO.20.00494. PMID: 34476331; PMCID: PMC8407652.
48. Hong DS, DuBois SG, Kummars S, et al. Larotrectinib in patients with TRK fusion-positive solid tumours: a pooled analysis of three phase 1/2 clinical trials. *Lancet Oncol*. 2020;21(4):531-540. doi: 10.1016/S1470-2045(19)30856-3. Epub 2020 Feb 24. PMID: 32105622; PMCID: PMC7497841.
49. Pishvaian MJ, Garrido-Laguna I, Liu SV, et al. Entrectinib in TRK and ROS1 Fusion-Positive Metastatic Pancreatic Cancer. *JCO Precis Oncol*. 2018;2:1-7. doi: 10.1200/PO.18.00039. PMID: 35135135.
50. Schram AM, O’Reilly EM, O’Kane GM, et al. Efficacy and safety of zenocutuzumab in advanced pancreas cancer and other solid tumors harboring NRG1 fusions. *J Clin Oncol*. 2021;39:3003.
51. Mosele F, Remon J, Mateo J, et al. Recommendations for the use of next-generation sequencing (NGS) for patients with metastatic cancers: a report from the ESMO Precision Medicine Working Group. *Ann Oncol*. 2020;31(11):1491-1505. doi: 10.1016/j.annonc.2020.07.014. Epub 2020 Aug 24. PMID: 32853681.