Precision medicine: Peer-reviewed journal articles featuring Fortrea oncologists

The revolution in the biology of cancer combined with remarkable developments in diagnostics creates a unique platform for establishing precision medicine. At Fortrea, we believe that the future hope of oncology lies in precision oncology. Our scientific and operational experts are at the forefront of this transformation—bridging the gap between molecular insights and clinical execution.

Fortrea supports our sponsors with a team of 50+ oncologists who employ a collaborative approach, resulting in contributions to peer-reviewed journal articles.

We are proud to contribute to the field of precision oncology through impactful research. Our recent publications highlight the value of comprehensive genomic profiling over single-gene testing, reveal age- and sex-based molecular differences in NSCLC and identify rare but actionable gene fusions—advancing personalized cancer care.

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2026	
Number	**Authors, Title, Journal**
2026.1	Berardi R, Bruschi G, Paoloni F, Pecci F, Tola E, Cognigni V, Galassi T, Borgheresi A, Cantini L, Santamaria L, Gualtieri M, Lunerti V, Chiodi N, Agostinelli V, Di Pietro Paolo M, Sbrollini A, Agostini A, Mentrasti G, Ficarra S, Mazzaschi G, Parisi A, Giampieri R, Saini KS, Buti S, Tiseo M, Vignini A, Giovagnoni A, Burattini L. **Clinically interpretable nomogram combining body composition and clinicopathological features for one-year survival prediction in advanced solid tumors.** *Scientific Reports.* Feb 2026. In press. **Summary:** This paper develops a clinically interpretable nomogram that integrates quantitative body composition metrics with clinicopathological features to predict one-year survival in patients with advanced solid tumors. By incorporating imaging-derived parameters such as muscle mass alongside traditional clinical variables, the model enhances individualized risk stratification beyond conventional prognostic tools. The study demonstrates how combining radiologic and clinical data can support precision decision-making and improve personalized care planning in heterogeneous oncology populations.
2026.2	Beaumont H, Cantini L, Saini KS, Faye N, Gill R, Iannessi A. **What are RECIST 1.1 progressions made of? Variability in double-read oncology trials.** *European Radiology.* 2026. https://doi.org/10.1007/s00330-025-12234-4 **Summary:** This paper explores the sources of variability in RECIST 1.1 progression assessments within double-read oncology trials. By examining discrepancies between independent radiologic evaluations, the study highlights how differences in lesion selection, measurement technique and interpretation of progression criteria contribute to inconsistent outcomes. The findings underscore the importance of standardized imaging workflows and robust read strategies to ensure reliable response assessment in precision oncology trials.

2025	
Number	**Authors, Title, Journal**
2025.1	Cortellini A, Brunetti L, Di Fazio GR, Garbo E, Pinato DJ, Naidoo J, Jayakrishnan R, et al. **Determinants of 5-year survival in patients with advanced NSCLC with PD-L1 ≥50% treated with first-line pembrolizumab outside of clinical trials: results from the Pembro-real 5Y global registry.** *BMJ Journals.* February 2025. https://doi.org/10.1136/jitc-2024-010674 **Summary:** This paper analyzes the determinants of 5-year survival in patients with advanced non-small cell lung cancer (NSCLC) with PD-L1 expression ≥50% treated with first-line pembrolizumab outside clinical trials. Using data from the Pembro-real 5Y global registry, the study identifies key factors influencing long-term outcomes, such as patient characteristics, tumor biology and treatment patterns. The findings provide valuable insights into real-world applications of pembrolizumab while addressing challenges like variability in response and resistance mechanisms.

Full list of published journals continued:

2025	
Number	**Authors, Title, Journal**
2025.2	Besliu C, Tanase AD, Rotaru I, Espinoza J, Vidal L, Poelman M, Juan M, de Larrea CF, Saini KS. **The evolving landscape in multiple myeloma: From risk stratification to T cell-directed advanced therapies.** *Cancers (Basel).* February 2025. 5;17(3):525. https://doi.org/10.3390/cancers17030525 **Summary:** This paper reviews the rapidly advancing treatment landscape of multiple myeloma, highlighting how refined risk-stratification approaches and deeper biological understanding are shaping therapeutic decision-making. The authors examine emerging T-cell–directed therapies, including bispecific antibodies and other immune-engaging modalities, and discuss how these innovations are altering outcomes for relapsed or refractory disease. The review underscores the importance of integrating molecular profiling and patient-specific characteristics to guide personalized treatment strategies in modern myeloma management.
2025.3	Pecci F, Cognigni V, Giudice GC, Paoloni F, Cantini L, Saini KS, Abushukair HM, et al. **Unraveling the link between cholesterol and immune system in cancer: From biological mechanistic insights to clinical evidence. A narrative review.** *Crit Rev Oncol Hematol.* May 2025. 209:104654. https://doi.org/10.1016/j.critrevonc.2025.104654 **Summary:** This review examines the interplay between cholesterol metabolism and the immune system in cancer, outlining how lipid biology shapes antitumor immunity and may influence response to therapy. The authors synthesize mechanistic evidence linking cholesterol pathways with immune signaling, tumor microenvironment behavior and treatment sensitivity. Clinical data exploring lipid-related biomarkers and therapeutic implications are also discussed. The paper highlights cholesterol-associated mechanisms as an emerging component of precision immunology with potential to inform future therapeutic strategies.
2025.4	Green MF, Wallen ZD, Ko HC, Strickland KC, Dillard A, Conroy JM, Dash DP, Nesline MK, DePietro P, Zhang S, Saini KS, Sathyan P, Eisenberg M, Caveney B, Ramkissoon S, Severson EA, Previs RA. **Utilization of a multi-modal comprehensive genomic and immune profiling testing strategy results in a high rate of test success and detection of clinically relevant biomarkers while optimizing tissue usage.** *Molecular Diagnosis & Therapy.* June 2025. https://pubmed.ncbi.nlm.nih.gov/40482003 **Summary:** This study evaluated a multi-modal comprehensive genomic and immune profiling (CGIP) strategy that integrates DNA and RNA sequencing, immune gene expression analysis and immunohistochemistry to optimize biomarker detection in oncology. Applied to over 20,000 solid tumor specimens, the approach achieved high test success rates, identified clinically relevant biomarkers more effectively than single-method testing and minimized tissue usage. These findings support CGIP as a practical, scalable solution for improving precision oncology and guiding treatment decisions.
2025.5	Cortellini A, Santo V, Brunetti L, Garbo E, Pinato DJ, La Cava G, Naidoo J, Katz A, Loza M, Neal JW, et al. **Transformer-based AI approach to unravel long-term, time-dependent prognostic complexity in patients with advanced NSCLC and PD-L1 ≥50%: Insights from the pembrolizumab 5-year global registry.** *Journal for ImmunoTherapy of Cancer.* September 2025. 29;13(9):e012423. https://jitc.bmj.com/content/13/9/e012423 **Summary:** This paper applies transformer-based artificial intelligence models to analyze long-term, time-dependent prognostic signals in advanced NSCLC patients with PD-L1 ≥50% treated with pembrolizumab. By integrating dynamic patient, disease and treatment variables, the model uncovers complex trajectories associated with durable benefit or early progression. The findings demonstrate how advanced machine-learning techniques can enhance precision prognostication and support more individualized decision-making in immunotherapy-treated populations.

Full list of published journals continued:

Number	Authors, Title, Journal
2025.6	Cortellini A, Garbo E, La Cava G, Citarella F, Santo V, Brunetti L, Pinato DJ, Naidoo J, Loza M, Genova C, et al. **Long-term outcomes from pembrolizumab monotherapy in patients with advanced NSCLC, PD-L1 expression ≥ 50%, and poor performance status: Transformer-based AI to characterize prognostic complexity.** *Lung Cancer.* October 2025. 16;209:108799. https://www.lungcancerjournal.info/article/S0169-5002(25)00691-9/fulltext **Summary:** This study investigates long-term outcomes in advanced NSCLC patients with PD-L1 ≥50% and poor performance status receiving pembrolizumab monotherapy. Using transformer-based AI, the authors characterize prognostic heterogeneity in this clinically challenging population, identifying patterns that traditional models may not detect. The results offer deeper insights into how patient fitness, disease biology and treatment dynamics interact, supporting more precise risk assessment and therapeutic planning in real-world practice.
2024	
Number	**Authors, Title, Journal**
2024.1	Demetriou D, Lockhat Z, Brzozowski L, Saini KS, Dlamini Z, Hull R. **The convergence of radiology and genomics: advancing breast cancer diagnosis with radiogenomics.** *Cancers.* March 2024. https://www.mdpi.com/2072-6694/16/5/1076 **Summary:** This paper explores the integration of radiology and genomics, termed radiogenomics, as a transformative approach to breast cancer diagnosis. It highlights the importance of molecular subtyping for prognostic and predictive purposes, given the diverse clinical behaviors of breast cancer subtypes. Radiogenomics combines genetic patterns with imaging features, offering a non-invasive method to enhance early detection, prognosis and treatment selection. This approach aspires to eventually eliminate the need for biopsy and sequencing, streamlining clinical workflows and advancing personalized patient care. However, challenges such as reproducibility, standardization and data integration remain, necessitating further research and validation in multi-institutional settings. The authors emphasize the disparities in breast cancer diagnosis and outcomes across populations, particularly among individuals of African heritage, underscoring the need for localized research efforts. Despite its limitations, radiogenomics is presented as a promising frontier in breast cancer research, with the potential to revolutionize patient care by correlating genomic information with imaging phenotypes.
2024.2	Nesline MK, Subbiah V, Previs RA, Strickland KC, Ko H, DePietro P, Biorn MD, Cooper M, Wu N, Conroy JM, Pabla S, Zhang S, Wallen ZD, Sathyan P, Saini KS, Eisenberg M, Caveney B, Severson EA, Ramkissoon SH. **The impact of prior single-gene testing on comprehensive genomic profiling results for patients with non-small cell lung cancer.** *Oncology & Therapy.* March 2024. https://link.springer.com/article/10.1007/s40487-024-00270-x **Summary:** Minimally invasive techniques for obtaining biopsy samples are much preferred by patients. However, the quantity of samples thus obtained is limited. Therefore, it is incredibly important to implement a testing strategy that optimizes the use of the valuable biosamples. This study evaluates how prior single-gene testing (SGT) affects the outcomes of subsequent comprehensive genomic profiling (CGP) in non-small cell lung cancer (NSCLC) patients. The research found that patients who underwent SGT first had higher rates of CGP test cancellations, longer turnaround times and incomplete molecular profiling due to tissue insufficiency. Despite these challenges, 46% of patients with negative SGT results had positive CGP results for recommended biomarkers, highlighting the importance of CGP for thorough molecular profiling.

Full list of published journals continued:

Number	Authors, Title, Journal
2024.3	Wallen ZD, Ko H, Nesline MK, Hastings S, Strickland KC, Previs RA, Zhang S, Pabla S, Conroy JM, Jackson J, Saini KS, Jensen T, Eisenberg M, Caveney B, Sathyan P, Severson EA, Ramkissoon SH. **Real-world comprehensive genomic and immune profiling reveals distinct age- and sex-based genomic and immune landscapes in tumors of patients with non-small cell lung cancer.** *Frontiers in Immunology*. June 2024. https://www.frontiersin.org/journals/immunology/articles/10.3389/fimmu.2024.1413956/full **Summary:** This study analyzes the genomic and immune profiles of NSCLC tumors in a large cohort of patients, revealing significant differences based on age and sex. Younger patients (<50 years) exhibited distinct genomic alterations and reduced immune system activation compared to older patients. The study also found that male patients had more pronounced differences in immune activation, emphasizing the need for personalized treatment strategies based on age and sex.
2024.4	Saini KS, Somara S, Ko HC, Thatai P, Quintana A, Wallen ZD, Green MF, Mehrotra R, McGuigan S, Pang L, Das S, Yadav K, Neric D, Cantini L, Joshi C, Iwamoto K, Dubbewar S, Vidal L, Chico I, Severson E, Lorini L, Badve S, Bossi P. **Biomarkers in head and neck squamous cell carcinoma: unraveling the path to precision immunotherapy.** *Frontiers in Oncology.* October 2024. https://doi.org/10.3389/fonc.2024.1473706 **Summary:** This paper explores the role of biomarkers in head and neck squamous cell carcinoma (HNSCC) and their potential to guide precision immunotherapy. It highlights how biomarkers can provide insights into tumor biology, immune evasion mechanisms and treatment response, enabling personalized therapeutic strategies. The authors discuss emerging biomarkers, such as PD-L1 expression and tumor mutational burden and their implications for selecting patients who may benefit from immune checkpoint inhibitors. By addressing challenges like biomarker variability and resistance mechanisms, the study emphasizes the importance of integrating biomarker research into clinical practice to improve outcomes for HNSCC patients.
2024.5	Strickland KC, Nesline MK, Previs RA, Ko H, Wallen ZD, Pabla S, Conroy JM, Sausen M, Saini KS, Cantini L, Jensen T, Caveney B, Eisenberg M, Severson EA, Ramkissoon SH. **Single gene testing and comprehensive genomic profiling in non-small cell lung cancer: a case series of divergent results from a large reference laboratory.** *Frontiers in Oncology*. October 2024. https://www.frontiersin.org/journals/oncology/articles/10.3389/fonc.2024.1445668/full **Summary:** This case series highlights the limitations of single-gene testing (SGT) compared to comprehensive genomic profiling (CGP) in identifying actionable genetic alterations in NSCLC. The study presents four cases where CGP identified clinically relevant alterations that SGT missed, demonstrating the superiority of CGP in providing a complete genetic profile for informed treatment decisions.
2024.6	Quintana A, Saini KS, Vidal L, Loibl S, Curigliano G, Schmid P, Cortes J. **Window of opportunity trials with immune checkpoint inhibitors in triple-negative breast cancer.** *ESMO Open*, in press. October 2024. https://authors.elsevier.com/sd/article/S2059702924014832 **Summary:** This paper investigates "window of opportunity" trials with immune checkpoint inhibitors (ICIs) in triple-negative breast cancer (TNBC), a subtype known for its aggressive nature and limited treatment options. These trials aim to evaluate ICIs during a short preoperative period, providing insights into their mechanisms and efficacy in modulating the tumor microenvironment. The authors discuss how such trials can inform personalized therapeutic strategies, improve patient outcomes and advance the understanding of TNBC biology. Despite challenges like patient selection and trial design, the study highlights the potential of ICIs to transform TNBC treatment paradigms.

Full list of published journals continued:

2023	
Number	**Authors, Title, Journal**
2023.1	Severson EA, Achyut BR, Nesline MK, Pabla S, Previs RA, Kannan G, Chenn A, Zhang S, Klein R, Conroy JM, Sausen M, Sathyan P, Saini KS, Ghosh A, Jensen T, Reddy P, Ramkissoon SH. **RNA sequencing identifies novel NRG1-fusions in solid tumors that lack co-occurring oncogenic drivers.** *The Journal of Molecular Diagnostics*. May 2023. https://doi.org/10.1016/j.jmoldx.2023.03.011 **Summary:** This research identifies novel NRG1 gene fusions in various solid tumors using RNA sequencing. The study found that these fusions are rare but therapeutically relevant, occurring in multiple tumor types without other co-occurring oncogenic drivers. The findings underscore the importance of RNA sequencing in detecting these fusions, which are crucial for targeted therapies.
2023.2	Ko H, Previs R, Strickland K, Caveney B, Chiruzzi C, Eisenberg M, Severson E, Ramkissoon S, Saini KS. **Is HER2-low a new clinical entity or merely a biomarker for an antibody drug conjugate?** *Oncology & Therapy.* November 2023. https://link.springer.com/article/10.1007/s40487-023-00249-0 **Summary:** This article examines whether HER2-low breast cancer represents a distinct clinical entity or is merely a biomarker for response to HER2-directed antibody–drug conjugates (ADCs). The authors highlight that clinical trial data in truly HER2-negative tumors are limited, noting that patients with IHC scores of 0 were excluded from the pivotal DESTINY-Breast04 study. As a result, there's insufficient evidence to determine if tumors with no HER2 expression exhibit different biology or therapeutic responses compared to those classified as HER2-low.

2022	
Number	**Authors, Title, Journal**
2022.1	Franklin MR, Platero S, Saini KS, Curigliano G, Anderson S. **Immuno-oncology trends: preclinical models, biomarkers, and clinical development.** *Journal of Immunotherapy for Cancer.* January 2022. https://doi.org/10.1136/jitc-2021-003231 **Summary:** The immuno-oncology (I-O) field has evolved rapidly, with thousands of therapies and combinations currently in development. Efficient progress from preclinical to clinical stages requires advanced tools and strategies, including robust preclinical models, predictive and monitoring biomarkers and innovative trial designs that enable faster evaluation. This article reviews recent discoveries and insights in these areas, highlighting how they can address unmet needs in cancer care and accelerate the development of novel I-O treatments.

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