

Why Oncologists choose **RGCC**





statements conference

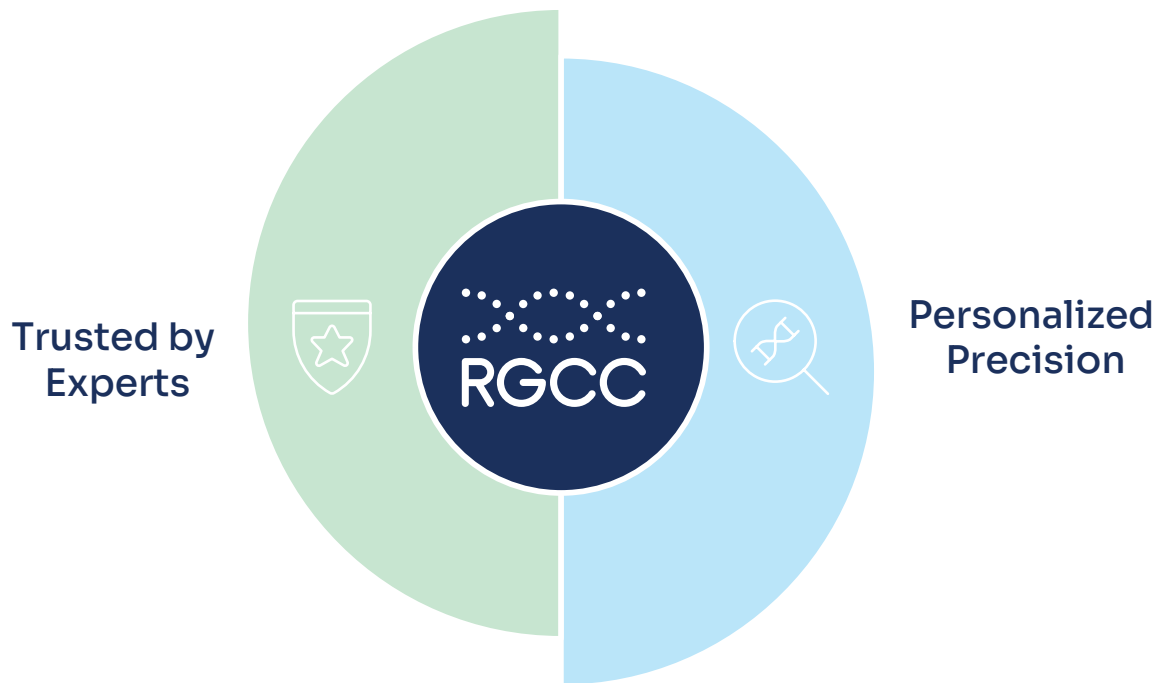
Table of contents

- 03** Why Oncologists choose RGCC
- 04** Oncologists testimonial
- 05** Accreditation and especially CAP
- 07** ctDNA vs CTC
- 08** NGS vs CTC
- 09** What RGCC can offer
- 10** When to order
- 11** How to order
- 12** Research paper summary
- 14** Tumor board
Q&A
- 15** Submit your question





Why Oncologists Choose RGCC?



Tailor treatments

with chemosensitivity and drug response profiling



Identify effective therapies

Help practitioners and patients to choose the most effective chemotherapeutic drugs or targeted drugs



Avoid trial-and-error

by eliminating ineffective options from the start





Oncologists testimonial

Individualized Treatment, Backed by Science

Patients face a maze of treatment options. RGCC tests simplify this by offering personalized recommendations based on live circulating tumor cells (CTCs) and molecular profiling.

“Onconomics gives the chemosensitivity per patient–tailor-made decision-making for both the doctor and patient.”

– Dr. Katherine V. Hernandez, Oncologist, M.D., RGCC Accredited Practitioner

Clarity for Complex Cases

Especially in advanced or metastatic settings, treatment planning can be overwhelming. RGCC brings clarity to the complex:

“RGCC gives me objective findings–what will actually work, and what won’t. From the start, we eliminate non-viable options.”

– Dr. Rolan-Ohmar A. Yumul, Oncologist, M.D., RGCC Accredited Practitioner





Our renowned accreditation

Our lab is **ISO 15189 and CAP-accredited**, ensuring rigorous validation, precision, and reproducibility in all testing methodologies, including CTC detection.

ISO 15189 accreditation confirms compliance with globally recognized medical laboratory standards, while CAP accreditation further strengthens our commitment to diagnostic accuracy through

continuous quality assessment. These accreditations directly support the reliability of Oncotrace's sensitivity and specificity.



These certifications ensure that RGCC's laboratory meets **the highest standards for accuracy, precision, and reliability** in clinical testing.

1. ISO 15189 (Medical Laboratories – Quality & Competence)

- Recognized **internationally for clinical lab quality and diagnostic accuracy.**
- Ensures **rigorous validation, reproducibility, and performance testing** of laboratory methods, including CTC detection.
- Demonstrates **compliance with international standards for sensitivity & specificity testing.**





2. CAP Accreditation (College of American Pathologists)

- CAP sets laboratory standards beyond CLIA and FDA requirements, ensuring high precision in testing methodologies.
- Focuses on maintaining the accuracy of test results and ensuring reproducibility, which directly supports the validity of Oncotrace's sensitivity & specificity.
- CAP-accredited labs undergo regular inspections and proficiency testing to verify diagnostic accuracy.

3. CLIA Certification (Clinical Laboratory Improvement Amendments)

- Required for laboratories performing human diagnostic testing in the U.S.
- Ensures test methods, including CTC detection, meet federal standards for analytical validity.
- Strengthens the reliability of test results through compliance with stringent lab performance criteria.





ctDNA vs CTC

	CTC	ctDNA
Real-time monitoring of tumors	Yes reflects current tumor status and metastatic potential ^{1,2}	Limited based on circulating DNA fragments from dead or dying cancer cells ^{1,6}
Tumor Heterogeneity	High detection capability of different CTC subpopulations ^{1,2,3}	Limited provides pooled genetic data ⁵
Phenotype Expression	Yes ⁴	No ⁷
Directly testing cancer drugs on cancer cells	Yes CTCs can be isolated from blood samples and cultured to evaluate their response to various cancer drugs and natural substances ^{2,5}	No ⁷

1. Tan, C.R.C., Zhou, L. and El-Deiry, W.S. (2016). Circulating Tumor Cells Versus Circulating Tumor DNA in Colorectal Cancer: Pros and Cons. *Current Colorectal Cancer Reports*, 12(3), pp.151-161. doi:<https://doi.org/10.1007/s11888-016-0320-y>.
2. Salu, P. and Reindl, K.M. (2024). Advancements in Circulating Tumor Cell Research: Bridging Biology and Clinical Applications. *Cancers*, [online] 16(6), p.1213. doi:<https://doi.org/10.3390/cancers16061213>.
3. Vasseur, A., Kiavue, N., François-Clément Bidard, Jean-Yves Pierga and Cabel, L. (2021). Clinical utility of circulating tumor cells: an update. *Molecular Oncology*, 15(6), pp.1647-1666. doi:<https://doi.org/10.1002/1878-0261.12869>.
4. Chen, K., Chen, Z., Ou, M., Wang, J., Huang, X., Wu, Y., Zhong, W., Yang, J., Huang, J., Huang, M. and Pan, D. (2022). Clinical significance of circulating tumor cells in predicating the outcomes of patients with colorectal cancer. *Clinics*, 77, pp.100070-100070. doi:<https://doi.org/10.1016/j.clinsp.2022.100070>.
5. Calabuig-Fariñas, S., Jantus-Lewintre, E., Herreros-Pomares, A. and Camps, C. (2016). Circulating tumor cells versus circulating tumor DNA in lung cancer—which one will win? *Translational Lung Cancer Research*, 5(5), pp.466-482. doi:<https://doi.org/10.21037/tlcr.2016.10.02>.
6. Serafeim, A., Apostolou, P. and Papatotiriou, I. (2021). Open Access Journal of Oncology and Medicine The Contribution of Liquid Biopsy in Diagnosis and Prognosis of Colorectal Cancer. [online] doi:<https://doi.org/10.32474/OAJOM.2021.04.000199>.
7. Ge, Q., Zhang, Z.-Y., Li, S.-N., Ma, J.-Q. and Zhao, Z. (2024). Liquid biopsy: Comprehensive overview of circulating tumor DNA (Review). *Oncology Letters*, 28(5). doi:<https://doi.org/10.3892/ol.2024.14681>.





NGS vs CTC

Parameter	Next Generation Sequencing (NGS)	Circulating Tumor Cells (CTC)
Status vs. Dynamic (Real-Time Insight)	Static snapshot of tumor genome from tissue biopsy or cfDNA at a single time point. May not reflect current tumor heterogeneity ^{1,2}	Dynamic and real-time: reflects current status of tumor burden, including evolution, treatment response, and heterogeneity ^{1,4}
Level	Genotypic Focuses on gene mutations, copy number variations, fusions – mostly genomic level only. Cannot directly assess protein function or pathway activation ^{1,3}	Phenotypic Includes protein-level phenotyping (e.g., EGFR, HER2, PD-L1), offering insights into functional protein expression and resistance mechanisms beyond just gene changes ⁵
CSC Detection (Cancer Stem Cells)	Typically cannot detect CSCs or provide information on their behavior ¹	Can identify and quantify CSCs, offering critical insight into metastasis, recurrence risk, and treatment resistance ⁶
Clinical Utility	Great for identifying targetable mutations or eligibility for certain targeted therapies (e.g., NTRK, EGFR, BRCA) ³	Offers personalized, functional treatment guidance – including chemotherapy and immunotherapy agents – and enables tracking of treatment response over time ⁷
Sample Type	Tissue biopsy or liquid biopsy (cfDNA); may be invasive or limited in availability ³	Simple blood draw , non-invasive, suitable for serial monitoring ¹

1. Salu, P. and Reindl, K.M. (2024). Advancements in Circulating Tumor Cell Research: Bridging Biology and Clinical Applications. *Cancers*, [online] 16(6), p.1213. doi:<https://doi.org/10.3390/cancers16061213>.
2. Tan, C.R.C., Zhou, L. and El-Deiry, W.S. (2016). Circulating Tumor Cells Versus Circulating Tumor DNA in Colorectal Cancer: Pros and Cons. *Current Colorectal Cancer Reports*, 12(3), pp.151-161. doi:<https://doi.org/10.1007/s11888-016-0320-y>.
3. Ge, Q., Zhang, Z.-Y., Li, S.-N., Ma, J.-Q. and Zhao, Z. (2024). Liquid biopsy: Comprehensive overview of circulating tumor DNA (Review). *Oncology Letters*, 28(5). doi:<https://doi.org/10.3892/ol.2024.14681>.
4. Feng, Z., Wu, J., Lu, Y., Chan, Y.-T., Zhang, C., Wang, D., Luo, D., Huang, Y., Feng, Y. and Wang, N. (2022). Circulating tumor cells in the early detection of human cancers. *International Journal of Biological Sciences*, [online] 18(8), pp.3251-3265. doi:<https://doi.org/10.7150/ijbs.71768>.
5. Precisionformedicine.com. (2023). Guiding Precision Medicine with Liquid Biopsy. [online] Available at: <https://www.precisionformedicine.com/blog/guiding-precision-medicine-with-liquid-biopsy-circulating-dna-vs-circulating-tumor-cells/> [Accessed 25 Apr. 2025].
6. Serafeim, A., Apostolou, P. and Papatotiriou, I. (2021). Open Access Journal of Oncology and Medicine The Contribution of Liquid Biopsy in Diagnosis and Prognosis of Colorectal Cancer. [online] doi:<https://doi.org/10.32474/OAJOM.2021.04.000199>.
7. Chen, K., Chen, Z., Ou, M., Wang, J., Huang, X., Wu, Y., Zhong, W., Yang, J., Huang, J., Huang, M. and Pan, D. (2022). Clinical significance of circulating tumor cells in predicating the outcomes of patients with colorectal cancer. *Clinics*, 77, pp.100070-100070. doi:<https://doi.org/10.1016/j.clinsp.2022.100070>.





What RGCC can offer?

Oncotrace

Oncotrace is an important step in the management and follow-up of a cancer treatment regimen. It gives us information on the current CTC count as well as the profile of how aggressive these cells are through the study of the Cancer Stem Cell (CSC) markers. By studying cancer behavior at a molecular level, doctors and patients can monitor the activity of tumor markers responsible for migration, proliferation, resistance, and metastasis.



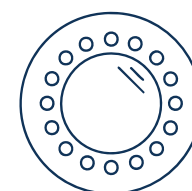
Onconomics

Onconomics is a one-stop solution for choosing personalized treatment plans. Onconomics can show you how effective specific anti-cancer drugs, targeted therapies are on individual cancer cells. It provides a comprehensive breakdown of the most suitable and successful treatments for cancer.



Immune frame

The Immune-Frame provides insights into the current state of a person's immune system by evaluating its strengths and weaknesses in totality. This comprehensive assessment is vital for cancer survival and aids in the selection of various precise immunotherapeutic options.



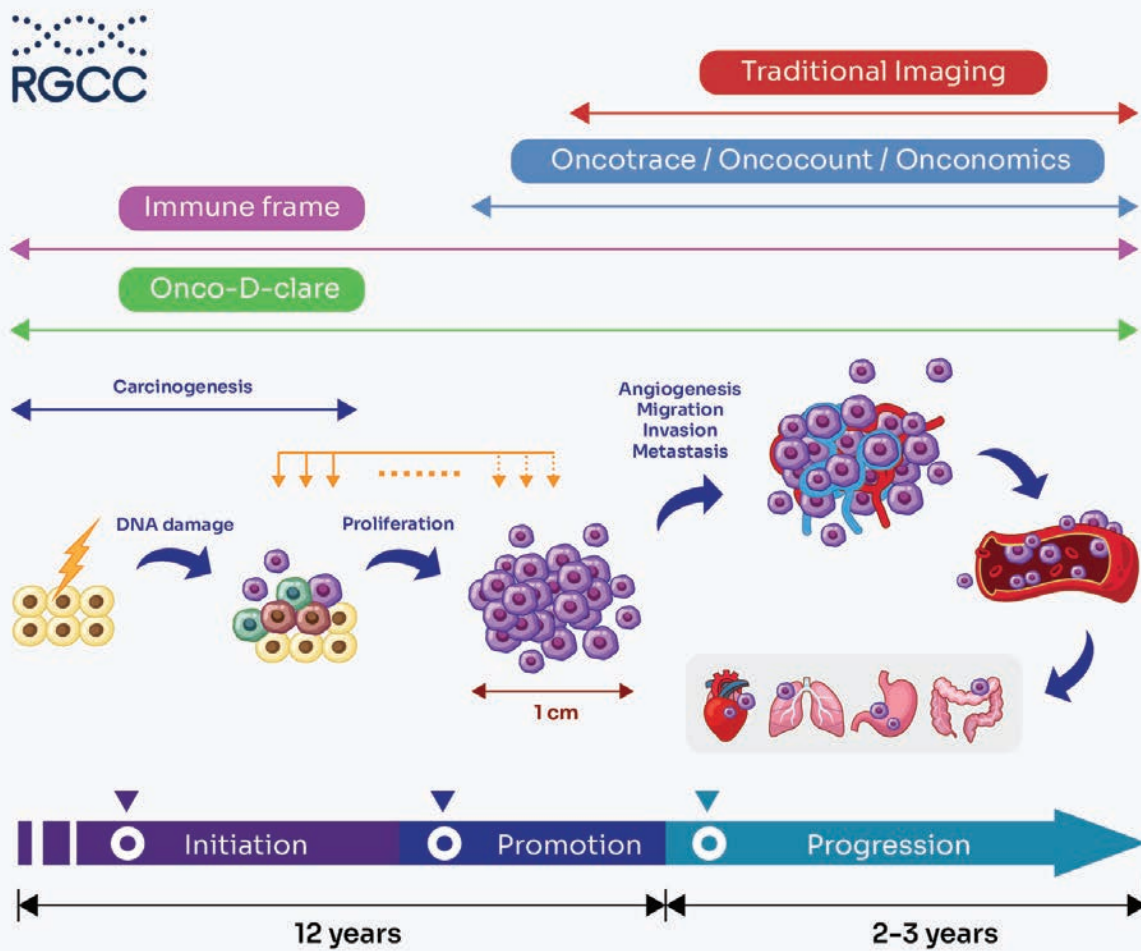


ChemoSNiP

When a drug is administered to the body, the body responds to the drug itself. Not every patient responds to chemotherapy identically. ChemoSNiP looks at how our body responds to a chemotherapy agent. This tells us whether our body removes the agent rapidly, reducing its effectiveness or detoxing poorly, resulting in higher chances of toxicity. ChemoSNiP allows all clinicians to analyze how a patient's body reacts to the specific drug.



When to order?





How to order?



Scan these
QR codes
to create
RGCC portal





Research paper summary

References

- Paz, A., Papatotiriou, I., Beis, G., Iliopoulos, A. and Apostolou, P. (2024). 42P Correlation of circulating tumor cells with cancer stage. *Annals of Oncology*, 35, pp.S227–S228. doi:<https://doi.org/10.1016/j.annonc.2024.08.051>.
- Joachim Dreves, Malhotra, M.S., Huseyin Sahinbas, Iliopoulos, A., Beis, G., Apostolou, P. and Ioannis Papatotiriou (2025). Adjusting Treatment Strategies Using Circulating Tumor Cells: Preliminary Results on Metastatic Colorectal Cancer. *Anticancer Research*, [online] 45(2), pp.491–502. doi:<https://doi.org/10.21873/anticancer.17438>.
- Dimitrios-Athanasios Ntanovasilis, Apostolou, P. and Ioannis Papatotiriou (2019). Flow Cytometric Detection of Circulating Tumor Cells in Breast Cancer Patients: A Blinded Study. *Journal of Cancer Therapy*, [online] 10(08), pp.708–715. doi:<https://doi.org/10.4236/jct.2019.108058>.
- Ju, S., Chen, C., Zhang, J., Xu, L., Zhang, X., Li, Z., Chen, Y., Zhou, J., Ji, F. and Wang, L. (2022). Detection of circulating tumor cells: opportunities and challenges. *Biomarker Research*, 10(1). doi:<https://doi.org/10.1186/s40364-022-00403-2>.
- IOANNIS PAPANOTIRIOU, GEORGIOS BEIS, ILIOPOULOS, A.C. and APOSTOLOU, P. (2022). Supportive Oligonucleotide Therapy (SOT) as an Alternative Treatment Option in Cancer: A Preliminary Study. *In Vivo*, [online] 36(2), pp.898–906. doi:<https://doi.org/10.21873/invivo.12779>.
- Serafeim, A., Apostolou, P., & Papatotiriou, I. (2021). The contribution of liquid biopsy in diagnosis and prognosis of colorectal cancer. *Open Access Journal of Oncology and Medicine*. <https://doi.org/10.32474/OAJOM.2021.04.000199>
- Calabuig-Fariñas, S., Jantus-Lewintre, E., Herreros-Pomares, A., & Camps, C. (2016). Circulating tumor cells versus circulating tumor DNA in lung cancer—which one will win? *Translational Lung Cancer Research*, 5(5), 466–482. <https://doi.org/10.21037/tlcr.2016.10.02>
- Chen, K., Chen, Z., Ou, M., Wang, J., Huang, X., Wu, Y., Zhong, W., Yang, J., Huang, J., Huang, M., & Pan, D. (2022). Clinical significance of circulating tumor cells in predicating the outcomes of patients with colorectal cancer. *Clinics*, 77, 100070. <https://doi.org/10.1016/j.clinsp.2022.100070>
- Feng, Z., Wu, J., Lu, Y., Chan, Y.-T., Zhang, C., Wang, D., Luo, D., Huang, Y., Feng, Y., & Wang, N. (2022). Circulating tumor cells in the early detection of





- human cancers. *International Journal of Biological Sciences*, 18(8), 3251–3265. <https://doi.org/10.7150/ijbs.71768>
- Ge, Q., Zhang, Z.-Y., Li, S.-N., Ma, J.-Q., & Zhao, Z. (2024). Liquid biopsy: Comprehensive overview of circulating tumor DNA (Review). *Oncology Letters*, 28(5). <https://doi.org/10.3892/ol.2024.14681>
- Precisionformedicine.com. (2023). Guiding Precision Medicine with Liquid Biopsy. Precision for Medicine. <https://www.precisionformedicine.com/blog/guiding-precision-medicine-with-liquid-biopsy-circulating-dna-vs-circulating-tumor-cells/>
- Salu, P., & Reindl, K. M. (2024). Advancements in circulating tumor cell research: Bridging biology and clinical applications. *Cancers*, 16(6), 1213. <https://doi.org/10.3390/cancers16061213>
- Tan, C. R. C., Zhou, L., & El-Deiry, W. S. (2016). Circulating tumor cells versus circulating tumor DNA in colorectal cancer: Pros and cons. *Current Colorectal Cancer Reports*, 12(3), 151–161. <https://doi.org/10.1007/s11888-016-0320-y>
- Vasseur, A., Kiavue, N., Bidard, F.-C., Pierga, J.-Y., & Cabel, L. (2021). Clinical utility of circulating tumor cells: An update. *Molecular Oncology*, 15(6), 1647–1666. <https://doi.org/10.1002/1878-0261.12869>



Tumor board



Dr. Sarah Khong

Director of Physician Development &
Network Engagement

Unlock personalized cancer care with the
RGCC Tumor Board Session

—a multidisciplinary meeting tailored to help clinicians make informed, integrative decisions based on RGCC test results.



Scan these
QR codes

to register to
our regular Tumor board

Q&A

Do I need to pay for DHL shipping?

- No. The logistics expense is covered by RGCC.

How can I request glass vials for blood collection?

- Glass vials can be ordered through the RGCC portal. No charges apply.

How do I settle the test invoice?

- Payment can be made to RGCC SEA via bank transfer or through the online payment gateway.

What is the ‘Incoming Sample Email’?

- This email confirms that the lab has received the sample and allows you to verify or amend the order details before processing begins.

How will I know when the test results are ready?

- You will receive an automated email from a “No Reply” address titled “You Have New Results in the Portal”.

Can I request assistance in interpreting the test results?

- Yes. If clarification is needed, you may consult a RGCC Medical Advisor to arrange for a discussion.

What is the turnaround time for test results?

- Standard turnaround is 7 – 21 working days, depending on the test type.





Submit your question



Scan this
QR code
to submit
your question



Shaping the cancer care paradigm

At RGCC, we strongly believe that personalized medicine is the future of cancer treatment. To improve the chances of successful treatment and survival, RGCC services specializes in designing personalized cellular therapies based on RNA interference.

Our team of scientists and medical experts conducts precise and reliable genetic tests to study cancer cells at all levels, including variants (DNA) and gene expression (mRNA).

We're dedicated to developing accurate tests that can help detect cancer in its early stages and save lives.

HEADQUARTERS

RGCC International GmbH
Baarerstrasse 95,
6300 Zug, Switzerland
office@rgcc-international.com
+41 (0) 41 725 0560

RGCC REGIONAL OFFICE

RGCC Southeast Asia
2 Venture Drive #09-27 Vision Exchange
Singapore 608526
info@rgcc-seasia.com
+65 8084 6380

LABORATORY FACILITIES

Florina, Greece
Halle, Germany
Hyderabad, India
Baar, Switzerland