# **K**-riken genesis

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## Riken Genesis' OncoGuide<sup>™</sup> EpiLight<sup>™</sup> Methylation Detection Kit has been approved for insurance coverage in Japan as an IVD for the selection of molecular targeted therapies for colorectal cancer

RIKEN GENESIS Co., Ltd. (Headquarters: Shinagawa, Tokyo; President: Yuko Oi) announces the launch of the "OncoGuide<sup>™</sup> EpiLight<sup>™</sup> Methylation Detection Kit" (the "Product"), an in vitro diagnostic product, in Japan on June 1, 2025, following the Product's insurance coverage.

Developed in collaboration with Tohoku University, this groundbreaking product is the world's first in vitro diagnostic solution that uses real-time PCR technology to select therapeutic agents for colorectal cancer by detecting the DNA methylation <sup>(\*)</sup> status of cancer tissue.



DNA extracted from samples undergoes a bisulfite conversion process (\*\*) to detect the methylation status of 16 regions that reflect the overall methylation status of the genome. This process determines whether a colorectal cancer is highly or lowly methylated (HMCC or LMCC).

In current clinical practice, oncologists rely on *RAS* and *BRAF* gene testing, as well as microsatellite instability (MSI/MMR) testing, which is recommended in colorectal cancer treatment guidelines for selecting first-line treatment for unresectable, advanced, recurrent colorectal cancer. Since *RAS* mutations render patients resistant to anti-EGFR antibody drugs, these drugs are recommended only for patients without *RAS* mutations. Recently, it has also been recommended that drug therapy be selected based on the primary tumor's location. For example, for *RAS* wild and right-sided colon tumors, it is recommended that a therapy other than anti-EGFR antibody drugs be used [1].



The clinical utility of this product as a biomarker for predicting the therapeutic efficacy of anti-EGFR antibody drugs based on DNA methylation status has been evaluated [2-8]. It was approved as an IVD in Japan in June 2014 and has now been covered by health insurance.

RIKEN GENESIS remains committed to advancing precision medicine by expediting the delivery of innovative diagnostic solutions to patients worldwide.

#### **Product Overview**

(1) Product name	OncoGuide <sup>™</sup> EpiLight <sup>™</sup> Methylation Detection Kit
(2) Generic name	DNA Methylation Detection Kit (87010000)
(3) Approval number	30600EZX00019000
(4) Purpose of use	Detection of methylation status in bisulfite-converted DNA samples extracted from cancer tissue. (To aid in selection of therapeutic agents in colorectal cancer)
(5) Inspection principle	Real-time PCR method
(6) Sample materials	DNA extracted from cancer tissue and treated with bisulfite conversion
(7) Insurance points	2,500 points (10 JPY/point)
(8) Packaging	24 tests/kit
(9) Manufacturer	Riken Genesis Co., Ltd.
(10) Marketing Authorization Holder	Riken Genesis Co., Ltd.

#### Acknowledgements

We would like to express our sincere gratitude to the patients who cooperated extensively in developing this product, as well as to everyone at Tohoku University and all those involved in the clinical development process.

#### Notes

#### \*: DNA methylation

DNA methylation is a chemical modification caused by the addition of methyl groups to 5'-cytosine by DNMTs (DNA methyltransferases), which acts on the CpG (CG dinucleotide sequence) region. DNA methylation in tumor tissues occurs primarily at CpG islands in the promoter regions of genes and is thought to suppress gene expression by negatively repressing transcription.



\*\*: Bisulfite conversion process

Since unmethylated cytosine in DNA is deaminated and converted to uracil by bisulfite (hydrogen sulfite) treatment, whereas methylated cytosine is not, this treatment can distinguish methylated and unmethylated cytosine. When the DNA region of interest is amplified by PCR, uracil is amplified as thymine and methylated cytosine as cytosine. This process makes it possible to analyze DNA methylation status with single-base resolution, making it a very important tool in disease diagnosis, therapeutic development, and cell biological research.

### References

- Japanese Society for Cancer of the Colon and Rectum (JSCCR). JSCCR Guidelines 2024 for the Treatment of Colorectal Cancer. KANEHARA & CO., LTD. 2024
- Ouchi K, et al. DNA methylation status as a biomarker of anti-epidermal growth factor receptor treatment for metastatic colorectal cancer. Cancer Sci;. 106(12): 1722-9, 2015 PMID: 35612620
- Okita A, et al. Consensus molecular subtypes classification of colorectal cancer as a predictive factor for chemotherapeutic efficacy against Oncotarget; 9(27)18698-18711, 2018 PMID: 29721154
- Osumi H, et al. Effect of DNA methylation status on first-line anti-epidermal growth factor receptor treatment in patients with metastatic colorectal cancer. Int J Colorectal Dis; 37: 1439-1447 2022 PMID: 35612620
- Ouchi K, et al. A modified MethyLight assay predicts the clinical outcomes of anti-epidermal growth factor receptor treatment in metastatic colorectal Cancer Sci. 113: 1057-1068. 2022 PMID: 34962023
- 6. Takahashi S, et al. Phase II study of biweekly cetuximab plus mFOLFOX6 or mFOLFIRI as second-line treatment for metastatic colorectal cancer and Phase II study of biweekly cetuximab plus mFOLFOX6 or mFOLFIRI as second-line treatment for metastatic colorectal cancer and exploratory analysis of associations between DNA methylation status and the efficacy of the anti-EGFR antibody: T-CORE1201. 2):676-691. 2023 PMID: 37201044
- Ouchi K, et al. Genome-wide DNA methylation status is a predictor of the efficacy of anti-EGFR antibodies in the second -International Journal of Colorectal Disease 39:89 2024. PMID: 38862615
- Ouchi K, et al. Genome-wide DNA methylation status as a biomarker for clinical outcomes of first-line treatment in patients with RAS wild-type ESMO Open. May 6;10(5):105076. 2025 PMID: 40334314.



#### About Riken Genesis Co., Ltd.

Riken Genesis, founded in October 2007, provides lab-assay services as well as products for genetic testing based on cutting-edge gene analysis technologies and bioinformatics, and has experience in the field of personalized medicine. The company provides highly reliable tests based on international quality standards, as demonstrated by its CLIA certification, being the first organization in Japan to meet this U.S. quality control standard for clinical laboratories. For more information, please visit <u>www. rikengenesis.jp</u>

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