understanding of tumor biology and informed clinical decision-making.

FOR FURTHER INFORMATION CONTACT: Inquiries related to this license opportunity should be directed to: Jaime Greene, M.S., Senior Technology Transfer Manager, NCI, Technology Transfer Center, Email: *greenejaime@mail.nih.gov* or Phone: 240–276–6633.

SUPPLEMENTARY INFORMATION: Accurate CNS tumor classification can be challenging when tumors show overlapping histology, limited tissue or atypical features. A meaningful fraction of cases remains unclassified or assigned with limited confidence with current molecular tools. These diagnostic ambiguities directly affect subtype and grade assignment which, in turn, influence treatment planning, prognosis, and clinical trial eligibility. Variability across observers and institutions can lead to additional testing, delays, and inconsistent diagnoses.

The NCI/Bethesda classifier addresses this gap using DNA methylation patterns as a robust molecular fingerprint. It applies a stratified machine learning framework to extend diagnostic coverage and improve assignment confidence for CNS tumors. The classifier was developed from a rigorously curated reference set of over 16k methylation profiles, structured into 22 tumor families and 133 clinically relevant diagnostic classes and includes 21 recently developed methylation classes not represented in existing tools. The approach has been validated across multiple independent cohorts (n = 5,875) and supports deployment through MethylScape, a public web-based portal that streamlines classifier execution for broad accessibility. In an NIH validation cohort analysis of 1,204 high-confidence matches with pre-methylation diagnoses available, methylation profiling confirmed the initial diagnosis in 25.6% of cases while driving clinically meaningful diagnostic evolution in the remainder, including refined diagnosis (subtyping) in 14.6%, new diagnosis with increased precision in 54.7%, and substantial diagnostic reclassification in 5.0%—changes that are expected to affect patient management in the reclassification subset.

Renal neoplasms present a parallel diagnostic challenge due to morphologic and molecular heterogeneity, overlapping microscopic features, and interobserver variability. As a result, a subset of cases are unclassifiable even after immunohistochemical, mutation and cytogenetic workups. To address this, the Kidney Classifier component of this platform leverages genome-wide DNA methylation profiling (feasible on formalin-fixed paraffin-embedded tissue using robust array-based methods). It was developed through examination of methylation signatures from over 2,000 renal neoplasms, identifying 23 coherent methylation groups that correlate with known tumor types and reveal clinically relevant novel subtypes. A machine learning classifier trained on 1,284 samples was externally tested on 287 renal neoplasms, demonstrating >90% concordance between expected neoplasm type and high-score methylation-based classification, with discordant cases highlighting opportunities for diagnostic reclassification and improved precision in challenging renal tumor evaluations.

Licensing and collaboration opportunities include commercial development of methylation-based diagnostic tests and/or software-enabled classification solutions for clinical laboratories, reference labs, and diagnostic companies. Partners may engage in external validation (retrospective and prospective), assay standardization, integration into pathology workflows and reporting systems, and extension of classifier coverage to additional tumor types and multi-institutional datasets. Consistent with consensus recommendations for complementary classifiers, the inventors are also interested in collaborations that: (1) operationalize multi-classifier strategies (concordant/complementary prediction to increase confidence, (2) leverage discordance to trigger orthogonal follow-up) and (3) accelerate clinical translation through scalable deployment models- including CLIA laboratory workflows and regulated diagnostic pathways.

''This Notice is in accordance with 37 CFR 404.4 Authority to grant licenses.''

≤*NIH Reference Number:* E–105–2023–0.

Related Technologies: N/A.

Product Type: Oncology.

Therapeutic Area(s): Diagnostic.

Development Stage: Prototype.

Publications:

- Aldape K., et.al. cIMPACT–NOW update 9: Recommendations on utilization of genome-wide DNA methylation profiling for central nervous system tumor diagnostics. Neurooncol Adv. 2025 Jan 3;7(1):vdae228. PMID: 39902391.

Patents: PCT/US2024/054179, filed November 1,2024.

Potential Commercial Applications:

- Molecular classification and diagnosis of CNS and kidney tumors, including difficult-to-classify and low-confidence cases.
- Diagnostic subtyping aligned to WHO-guided entities.
- Reference-lab and hospital-lab deployment.
- Clinical trial stratification and translational research cohort harmonization.
- Multi-classifier diagnostic decision support.
- Cancer treatment development.

Competitive Advantages:

- Developed from a rigorously curated, large reference set of methylation profiles.
- Clinically relevant CNS diagnostic.
- CNS tumor methylation classes not represented in existing tools, expanding diagnostic coverage.
- Clinical-impact analysis creating superior diagnostic precision.
- Superior classifier for kidney cancer.
- Superior classifiers for multiple solid, difficult-to-diagnose tumors.
- Integrative into clinical workflows, improving diagnostic practices and enhancing patient care.

Collaboration Opportunity: Researchers at the NCI seek licensing and/or co-development research collaborations to further develop and possibly expand the classification capabilities of the software.

Dated: August 7, 2026.

Richard U. Rodriguez,

Associate Director, Technology Transfer Center, National Cancer Institute.

[FR Doc. 2026–16441 Filed 8–11–26; 8:45 am]

BILLING CODE 4167–05–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government Owned Invention Available for License: Monoclonal Antibody (RO4) That Reacts With the Juxta-Membrane Region of Mesothelin

AGENCY: National Institutes of Health, HHS.

ACTION: Notice.

SUMMARY: The National Cancer Institute (NCI) seeks research co-development partners and/or licensees for a novel monoclonal antibody (mAb), RO4, that can be used to treat mesothelin (MSLN) expressing cancers.

FOR FURTHER INFORMATION CONTACT: Inquiries related to this license opportunity should be directed to: Laurie Whitney, Ph.D., Unit Supervisor, NCI, Technology Transfer Center, Email: *WhitneyL@mail.nih.gov* or Phone: 240–276–5505.

SUPPLEMENTARY INFORMATION: Mesothelin (MSLN) is a surface antigen

highly expressed in many solid tumors, such as mesothelioma, ovarian, and pancreatic cancers. MSLN is present at relatively low levels in mesothelial cells of healthy individuals, making it an ideal candidate for targeted therapeutics. However, the efficacy of MSLN-targeted agents is often reduced as a portion of the protein is shed from the cell surface and binds to available anti-MSLN antibodies. This reduces therapeutic engagement at the cell surface as shed MSLN acts as a decoy within tumor microenvironments, limiting antibodies from reaching and destroying tumor cells.

Researchers at the NCI developed a novel mAb, RO4, which specifically binds to the juxta-membrane region of MSLN to block shedding. RO4 binds to the same region of MSLN as a previously developed mAb, 15B6 (NCI Ref. #E–106–2017), but in a different conformation. This allows for increased binding affinity and specificity. CAR–T cells made with humanized RO4 demonstrated higher cytotoxicity both *in vitro* and *in vivo* compared to h15B6 CAR-Ts. Additionally, hRO4 exhibited broader binding across MSLN-positive cell types compared to h15B6, suggesting wider utility in patient populations.

Researchers at the NCI seek licensing and/or co-development research collaborations for further development of RO4 that can be used to treat MSLN-positive cancers.

''This Notice is in accordance with 37 CFR 404.4 Authority to grant licenses.''

NIH Reference Number: E–051–2024.

Related Technologies: E–106–2017 and E–033–2022.

Product Type: Therapeutic.

Therapeutic Area(s): Oncology | Immunology.

Development Stage: Pre-clinical (*in vivo* validation).

Publications:

- Onda M, et al. RO4, a high-affinity humanized antibody against the juxtamembrane region of mesothelin for targeted cancer therapy. (PMID41550974).
- Liu X, et al. Highly active CAR T cells that bind to a juxtamembrane region of mesothelin and are not blocked by shed mesothelin. (PMID35512094).

Patens: National Stage Applications.

Potential Commercial Applications:

- Treatment of various MSLN-positive cancers—including mesothelioma, ovarian and pancreatic cancer.
- Development of CAR T cells and bispecific antibodies to target MSLN and CD3.
- Development of Antibody-Drug Conjugates (ADCs) and Antibody-nanoparticle conjugates to deliver cytotoxic payloads to MSLN-positive tumors.

Competitive Advantages:

- Increased therapeutic effectiveness via avoiding shed decoy interference.
- Enhanced binding affinity and selectivity compared to earlier antibodies.
- Improved cytotoxicity across various MSLN-positive tumors.
- Versatility in use of CAR T cells and bispecific antibodies targeting MSLN and CD3.

Collaboration Opportunity: Researchers at the NCI seek licensing and/or co-development research collaborations for a novel monoclonal antibody (mAb), RO4, that can be used to treat MSLN expressing cancers.

Dated: August 7, 2026.

Richard U. Rodriguez,

Associate Director, Technology Transfer Center, National Cancer Institute.

[FR Doc. 2026–16443 Filed 8–11–26; 8:45 am]

BILLING CODE 4167–05–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government Owned Invention Available for License: Quantitative Particle Identification (QPID) Digital Autoradiography System

AGENCY: National Institutes of Health, HHS.

ACTION: Notice.

SUMMARY: The National Cancer Institute (NCI) seeks research co-development partners and/or licensees for a QPID digital autoradiography system with particle identification capabilities.

FOR FURTHER INFORMATION CONTACT: Inquiries related to this license opportunity should be directed to: Eric Cheng, Ph.D., Technology Transfer Manager, NCI, Technology Transfer Center, Email: *eric.cheng2@nih.gov* or Phone: 240–276–5978.

SUPPLEMENTARY INFORMATION: Autoradiography is a photographic process that exposes a medium, sensitive to radiation, to a sample emitting radiation. The current state of the art involves exposing a thin slice of tissue to an ionization-sensitive film for several hours or days and then scanning the film into an autoradiography image. This image is created using the sum of the ionizations from all the decays that occurred during the time of exposure on the ionization-sensitive medium. Imaging quality of these samples can be improved by collecting information from each individual decay to enhance the autoradiographic measurement.

Researchers at NCI developed a QPID digital autoradiography system to measure the energy deposition from charged particles for each individual radioactive decay. The QPID leverages the ionizing radiation detection features of the Timepix3 detector to generate autoradiograph images in units of dose per unit time and area. The high readout speed of the Timepix3 gives the detector the capability to measure separate decay ionizations. It also segregates the image into one generated only by alpha and the other only by beta particles. A gamma detector was interfaced with the Timepix3—allowing tagging charged particle ionization events in coincidence with a gamma emission during the isotope decay. This allows for a method to distinguish between alpha and positron emitting radioisotopes when imaged concurrently in the same pathology sample. This is the most unique feature of the QPID which will aid the development of new theranostic treatments in which two similar ligands are used.

''This Notice is in accordance with 37 CFR 404.4 Authority to grant licenses.''

NIH Reference Number: E–201–2023.

Related Technologies: N/A.

Product Type: Device.

Therapeutic Area(s): Oncology | Radiology.

Development Stage: Prototype.

Publications:

- Adler SS, et al. A Quantitative Particle Identification (QPID) spectral autoradiography system. (PMID40374923).

Patens: PCT Stage, filed May 29 2025.

Potential Commercial Applications:

- Improved radiotherapy dosing for cancer treatment.
- Improved radiotherapy guidance for cancer treatment.
- Improve accuracy of biopsy procedures through real-time tracer measurement and detection.
- Measuring dual radioligand pathology samples.

Competitive Advantages:

- QPID can measure charge particle activity for individual decays (alpha, beta, and gamma).
- QPID measures absolute time of decay relative to the start of data acquisition.
- QPID more accurately measures radioactive dose in a tissue sample.

Collaboration Opportunity: Researchers at the NCI seek licensing and/or co-development research collaborations for developing the QPID system for improved autoradiography imaging.