Informed Consent for Sema4 Signal Whole Exome/Transcriptome and PanCancer Profiling

If you do not have legal authority and capacity to sign this consent under law, a legal representative who has the legal authority and capacity to do so must sign this consent and authorization on your behalf.

I hereby request the genetic testing ordered by my health care provider, which may include molecular analysis and/or immunohistochemistry analyses of my sample(s). I have received information (please see www.sema4.com/testcatalog for test-specific information sheet) from my healthcare provider or from a genetic counselor that described, in words that I understand, the nature of the genetic testing that I am about to undergo.

I understand that specimen(s), such as a small sample from the tumor and blood, saliva, or other non-tumor tissue, will be taken from me. I understand that the specimen(s) will be analyzed for changes in my tumor and normal (also called germline) DNA/tumor RNA that may impact the diagnosis, prognosis, likelihood of responding to certain treatments, and/or opportunity to participate in clinical trials.

The nature of the genetic test(s) ordered in connection with this consent has been explained to me, and the accuracy of the test and its risks and limitations have been detailed.

Limitations

- I understand that this test is designed to analyze genes/genetic changes that may be clinically informative. The results from this test are provided to my healthcare provider to aid in my medical management. It is possible that the test results will not identify any changes that could influence my care.
- This test does not analyze every gene or genetic change within my cancer or normal (also called germline) genetic material. This test may not be able to detect certain genetic changes due to technical limitations.
- I understand that a negative result reduces, but does not eliminate, the possibility that I carry a variant(s) in the gene(s) analyzed. It does not change the possibility that I carry a variant(s) in other genes that are not included in the test. A false negative result cannot be ruled out.
- I understand that infrequent errors may occur, even though the likelihood of an incorrect diagnosis or a misinterpretation of the result is extremely small.
- There may be genetic changes of unknown clinical significance found in the tumor portion of this test. While these findings may not currently provide clinically relevant information, they will still be reported if identified in the tumor and not in the germline.
- Knowledge of genetic information will improve over time and new information may become available in the future that could impact the interpretation of my results.
- As the cancer's genetic makeup may evolve over time, genetic or other types of testing may need to be performed on other samples during the course of my treatment and follow up.
- Only clinical trials in the United States for which I may be eligible will be reported.
- The quality and quantity of the specimen received may impact the test results.

Secondary/Incidental findings

It is possible that genetic changes in my non-tumor sample will be identified. These germline (or inherited) findings are considered "secondary" (or incidental) genetic information that is not directly related to the reason that my healthcare provider ordered this test, but that may affect my health and the health of my family members. They include harmful changes in genes that are associated with cancer predisposition as well as non-cancer related conditions such as cardiomyopathies, connective tissue disorders, and familial hypercholesterolemia listed in the ACMG Recommendations for Reporting of Secondary Findings in Clinical Exome and Genome Sequencing (ACMG SF v2.0) (PMID: 27854360, http://www.acmg.net/ACMG/Advocacy/Policy-Statements/ACMG/Advocacy/Policy-Statements.aspx). The findings outlined by the ACMG are genetic changes in genes strongly associated with diseases for which some preventative measures and treatment options exist. If a germline finding is reported, a consult with a medical provider, clinical genetics professional (such as a genetic counselor) and/or confirmatory germline genetic testing may be appropriate follow-up options.

The inclusion of certain secondary findings in my test report will be indicated on the test order placed by my healthcare provider. I have the right to change my order, and, if I wish to do so, I will contact my healthcare provider to discuss the available options, but I understand that any change request or consent withdrawal will not affect results that have already been reported.

I will discuss any appropriate medical intervention with my healthcare provider before taking any action based on my results. I understand that additional genetic testing may be necessary. Even though some inherited genetic changes may be detected by this test, if there is an inherited condition that is suspected in me or in my family, a different test with the purpose of examining germline genetic changes based on family and/or personal history may be recommended by my healthcare provider.

For a test that requires Sema4 to evaluate my results in the context of clinical information from one or more of my family members and/or my reproductive partner, I understand that Sema4 may disclose my and each of my family members' and/or reproductive partner's clinical information to all tested individuals and our healthcare providers, including in a single comprehensive report, in genetic counseling sessions (if applicable), and consult notes from these sessions, for treatment purposes. I confirm that each person being tested or receiving counseling is aware of the potential for these disclosures.

I understand that the results of this testing will become part of my medical record and may only be disclosed to individuals who have legal access to this record or to individuals I designate to receive this information. My test results will be explained to me by a genetic counselor or by my healthcare provider, who will have the opportunity to discuss my results with a geneticist.

There are federal and state laws that address genetic discrimination. The US Genetic Information Nondiscrimination Act may prohibit discrimination

based on genetic information by employers and health insurers. This law, however, does not protect people in the military nor protect against discrimination by other types of insurance, such as life, disability, or long-term care insurance

Please note that Sema4 labs are CLIA-approved and accredited by the CAP. Sema4 is a covered entity under HIPAA. I understand that Sema4 is obligated to retain medical records for regulatory purposes and cannot delete my clinical data.

Sema4 may deidentify and retain my left-over sample(s) to use for operational, quality control, validation, and improvement purposes, to the extent permitted by law. If I reside in the state of New York, I understand that my sample(s) will not be used for these purposes and will be destroyed no more than 60 days after they were taken or at the end of the testing process, whichever occurs later.

Sample storage for future clinical purposes
I authorize and consent to Sema4 storing a portion of my sample indefinitely for the purpose of performing any future clinical testing to which I may consent. My sample will not be used for any other purpose without my consent, and no test will be performed on my sample other than the one(s) authorized by me and my healthcare provider. I understand that I may withdraw this consent by following the instructions at www.sema4.com/consent-options/ and any sample identifiable as mine will be destroyed promptly. The withdrawal will apply to all tests that I have undergone with Sema4 to date. I understand that if my sample does not meet Sema4's criteria, it will be destroyed at the end of the testing process or within 60 days of sample collection, whichever is longer.

Research using de-identified data
Sema4 may de-identify and use all data and information generated and received in connection with this test to support medical and academic research relating to health, disease prevention, drug development, and other scientific purposes. I will receive no compensation in connection with such research. Data and information are "de-identified" by removing any information that could be used to identify a specific person, such as a name, email address, or date of birth. Sema4 may also give the de-identified data and information to its research partners and may submit it to research databases for use in scientific and medical research. Examples of such research include projects to understand the risk factors and outcomes for various conditions and can be found at www.sema4.com/research.

If I do not want to have my de-identified data and information used in research as set forth above, I may withdraw this consent by following the instructions at www.sema4.com/consent-options/, and I understand that the change will apply to all data generated from tests that I have undergone with Sema4. I further understand that this withdrawal will not apply to any information that has already been de-identified and cannot be identified by Sema4.

Financial agreement and guarantee
By my signature on the Sema4 Test Requisition Form or at the bottom of this form, I accept full and complete financial responsibility for all genetic testing ordered by my healthcare provider that is ordered at Sema4. For insurance billing, I authorize Sema4 to bill my health insurance plan on my behalf, to release any information required for billing, and to be my designated representative for purposes of appealing any denial of benefits. I irrevocably assign the payment to Sema4, and direct that payment be made directly to Sema4. I understand that my out-of-pocket costs may be different than the estimated amount indicated to me by Sema4 as part of a benefit investigation. I agree to be financially responsible for all amounts as indicated on the explanation of benefits issued by my health insurance plan. If my insurance provider sends a payment directly to me for unpaid services performed by Sema4 on my behalf, I agree to endorse the insurance check and forward it to Sema4 within 30 days of receipt as payment towards Sema4's claim for services rendered. If I do not have health insurance, I agree to pay for the full cost of the genetic testing that was ordered by my healthcare provider and billed to me by Sema4.

I understand that a completed **Advance Beneficiary Notice (ABN)** is required for **Medicare** patients if the service is deemed non-covered.

Permission to contact
I understand that Sema4 may wish to contact me in the future, including for the following reasons: research purposes, and the provision of general information about research findings. If I wish to opt-out out of future contact for research purposes, I will notify Sema4 by following the instructions at www.sema4.com/consent-options/. I understand that Sema4 may contact me regarding this test and/or the provision of information about the results of tests on my sample(s), and I cannot opt out of this type of contact.

My healthcare provider has discussed my test order(s) with me, and I hereby consent to have my specimen tested. I have been encouraged to ask questions and agree that any questions I have asked have been answered to my satisfaction. If my legal representative is signing this consent and authorization, my legal representative is satisfied that they have received enough information to sign on my behalf.

The most updated versions of our consent forms can be found at: https://sema4.com/resources/. Further information about managing your privacy options can be found at: https://sema4.com/consent-options/.

Please complete all required (*) fields and optional applicable fields below:

Patient Name*	Patient's DOB*	Date*
Signature of Patient or Legal Representative*	Email Address*	Phone Number*
Legal Representative Name (if applicable)		

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