

**Physician/Health Care Provider:** Please ask your patient or his/her legal guardian to read and complete this consent form for genetic testing.

## Patient Information Regarding the *TPMT* Genetic Test

**I understand the following and freely give my consent to this genetic testing.**

**Reason for Medical Referral**— Thiopurine drugs (eg, azathioprine, 6-mercaptopurine, 6-thioguanine) are used to treat acute lymphoblastic leukemia and autoimmune diseases and to prevent post-transplant organ rejection. The *TPMT* enzyme, thiopurine S-methyltransferase, prevents a toxic buildup of the active forms of these drugs. Variants in the *TPMT* gene that lead to low enzyme activity can lead to an increased risk of thiopurine toxicity. Because of the potentially severe bone marrow toxicity that can occur even with standard thiopurine dosages in patients with *TPMT* enzyme deficiency, testing for the most common *TPMT* gene mutations is recommended before beginning treatment. The information can be used to adjust the drug dosage or can suggest the use of an alternative treatment.

**Description of the test**— A blood sample is taken from you. This may cause you some pain and discomfort. The blood sample is sent to the laboratory and DNA is purified from your blood sample. Your DNA is analyzed to look for mutations in selected regions of the *TPMT* gene.

**Limitations of the test**— This test analyzes selected regions of the *TPMT* gene where the vast majority of the mutations causing *TPMT* deficiency are located. If you do not have the *TPMT*\*2, \*3A, \*3B, or \*3C mutations, you most likely have two normal copies of the *TPMT* gene (reported as *TPMT*\*1). Because all regions are not tested, the rare possibility cannot be ruled out that you have a *TPMT* gene mutation in a region not analyzed. You could also have a rare variant that may interfere with the detection of a *TPMT* gene mutation.

**Meaning of a positive test result**— A positive test result indicates the presence of a clinically important variation in your *TPMT* gene. If you have one *TPMT* mutation, you have an increased risk for thiopurine toxicity and a lower drug dosage is recommended. If you have two *TPMT* mutations, your physician may consider an alternative drug or a drastic dose reduction.

**Meaning of a negative test result**— A negative test result indicates that no clinically important variation was detected in the targeted regions of the *TPMT* gene. A negative test result does not rule out the possibility (~5%) of an undetected variant in a region of the *TPMT* gene not analyzed by this test. It is also possible that a rare false negative result can be obtained due to the presence of a variant in the *TPMT* gene that interferes with this assay. A negative result does not guarantee that you will not develop any toxic effects associated with thiopurine drugs, as other genes and non-genetic factors are not evaluated by this test. Therapeutic drug monitoring is recommended.

**Confidentiality and distribution of your test result**— Stringent laboratory processes are in place to keep your personal information and your *TPMT* Genetic Test results strictly confidential. Only the *TPMT* Genetic Test will be performed on your specimen except as described and authorized below. The *TPMT* Genetic Test results will be released only to your physician or to the referring institution.

**Genetic counseling, further testing, additional physician consults**— As a patient you may seek the advice of a physician and/or professional genetic counselor prior to signing this form. Once your test has been completed, further consultation with your physician and/or genetic counselor may be warranted.

**Specimen retention**— Endocrine Sciences may retain your blood and/or DNA specimens for up to 60 days after completion of testing. At the end of this time, the specimens will be destroyed unless you specify that we may store the DNA specimen for an indefinite period of time to be used for research, development, and/or quality control purposes. All means of identifying the DNA specimen will be removed so that it will not be possible to identify the source of the DNA. There will be no compensation if any invention results from this research and development. If you want us to store your DNA specimen beyond 60 days after completion of ordered testing and agree to having your leftover specimen used for research, development, and/or quality control purposes, please indicate so by checking the box below.

I agree to allow my DNA specimen to be used for research, development, and/or quality purposes. I understand that all means of identifying the specimen as belonging to me will be removed before it is used for such purposes.

**Patient Signature**— I have read the information provided above and I have discussed the *TPMT* Genetic Test with my physician/health care provider. I have had the opportunity to ask any questions regarding this test, and all questions have been answered to my satisfaction. In no way does this waive my legal rights or release anyone from their legal and professional responsibilities.

Signature of patient or legal guardian: \_\_\_\_\_ Date: \_\_\_\_\_

Signature of health care provider: \_\_\_\_\_ Date: \_\_\_\_\_