CETT TESTING CENTER

XXX School of Medicine at XXX,
Department of Pathology and Laboratory Medicine
2000 Gene Avenue
MS 1234, XXXX, XX 00000
Phone: (000) 000-0000, Fax: (000) 000-0000
Lab website URL

DIRECT DNA TEST FOR *ARG1* MUTATIONS

Patient Name: Doe, Jane		**ODTC No.:** 60xx
Sex: F	**DOB:** 12/9/2003	**Race/Ethnicity:** Hispanic
Requested by: Dr. X		**Patient I.D. No.:** 206-xx-xxx
Clinical Diagnosis: Devel. Delay, spasticity		**Specimen Type:** Blood
Date Received: 8-15-06		**Date Reported:** 9-4-06

RESULT: One mutation identified in the *ARG1* gene: p.delI129.

INTERPRETATION: This patient has enzymatically confirmed arginase deficiency, an autosomal recessive disorder. This result is consistent with a diagnosis of arginase deficiency. It is presumed that the mutation in the second allele was not identified by the testing methods employed (see Testing Methodology below).

SUGGESTIONS FOR TEST RESULT CLARIFICATION: No additional clinical testing is currently available to clarify this result, but research testing may be available by contacting XXXX at XXX. (OR) Additional testing to rule out deletion of the other allele is available by contacting the lab at the above number.

LIMITATION (context specific):
In approximately -% of patients with enzymatically confirmed arginase deficiency, molecular testing does not identify one of the two causative mutations.

RESOURCES:

- Genetic counseling is recommended to explain the implications of this result to the patient and family. To find a genetics professional in your area go to: GeneTests (www.genetests.org); or National Society of Genetic Counselors (www.nsgc.org); or Genetic and Rare Disease Information Center (www.genome.gov/10000409); or Genetic Alliance (www.geneticalliance.org).

- Additional information on this disease can be obtained from the National Urea Cycle Defects Foundation (www.nucdf.org), GeneTests (www.genetests.org) or our laboratory website (laboratory URL).

- For additional information on interpreting these results, contact Name XXX the laboratory genetic counselor at (tel# and/or email), Dr. XXX (tel #) or visit our laboratory website (URL).

Note: This test was developed and its performance characteristics determined by ODTC. It has not been cleared or approved by the U.S. Food and Drug Administration (FDA). The FDA has determined that such clearance or approval is not necessary. Some reagents are still under consideration by FDA for diagnostic use; however, their use is standard in many molecular pathology and genetics laboratories, and they have been used satisfactorily in our laboratory. Appropriate positive and negative controls are included for each case. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is certified under Clinical Laboratory Improvement Amendments of 1988 (CLIA-88) as qualified to perform high complexity clinical laboratory testing.

CETT TESTING CENTER

XXX School of Medicine at XXX,
Department of Pathology and Laboratory Medicine
2000 Gene Avenue
MS 1234, XXXX, XX 00000
Phone: (000) 000-0000, Fax: (000) 000-0000
Lab website URL

Data:

Table1. Sequence variants identification: (gene symbol), (chromosomal location), (NCBI gene ID #), (NCBI RefSeq #)

	Sequence variant (gene) [1]	Sequence variant (protein) [1]	Effect of the sequence variant [2]	References[3]
Allele 1	c.	p.delI129	deleterious	Ref A

1. Using nomenclature proposed by (den Dunnen and Antonarakis 2001)
2. Deleterious vs. Polymorphism vs. Unknown
3. Re this specific sequence variant

Comments

The results of this analysis revealed one copy of mutation deltaI129 in the *ARG1* gene. This mutation has been reported in arginase-deficient patients and has been shown to have negligible enzymatic activity in an *in vitro* expression system (Vockley *et al*., *Biochem. Mol. Med.* 1996;59:44-51).

General Limitations

As with any laboratory test, there is a remote possibility of false results, but we have observed no such events in tests employing similar technology, and all positive and negative controls worked appropriately.

Testing Methodology

DNA was extracted from the specimen by standard methods and the 8 coding regions of the *ARG1* gene and flanking intronic regions were amplified by PCR and analyzed by bidirectional DNA sequence determination. Mutations in other regions not tested, such as full introns and promoters, are not be detected using this methodology. In addition, whole gene or partial gene deletions may not be detected using this methodology.

References

den Dunnen JT, Antonarakis SE (2001) Nomenclature for the description of human sequence variations. Hum Genet 109:121-4

Ref A

_____ _____

XXXX, M.D., Ph.D. Date
Director