ARUP LABORATORIES
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Client: Example Client ABC123
123 Test Drive
Salt Lake City, UT 84108
UNITED STATES

Physician: Doctor, Example

Patient: Patient, Example

DOB	5/14/2018
Gender:	Unknown
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	00/00/0000 00:00

Hemophilia A (F8) 2 Inversions, Fetal

ARUP test code 2001755

Maternal Contamination Study Fetal Spec	Fetal Cells Single fetal genotype present; no maternal cells present. Fetal and maternal samples were tested using STR markers to rule out maternal cell contamination.
Maternal Contam Study, Maternal Spec	Whole Blood
F8 INV FE Specimen	Cultured Amnio
Hemophilia A (F8) Inversions Interp	Intron 22 * RESULT One pathogenic variant was detected in the F8 gene. PATHOGENIC VARIANT Gene: F8 (NM_000132.3) Variant: Intron 22-A inversion; Hemizygous INTERPRETATION According to information provided to ARUP, the mother of this fetus carries the pathogenic intron 22-A inversion in the factor 8 (F8) gene. One copy of the pathogenic F8 intron 22-A inversion was identified in this prenatal sample; thus, this male fetus is predicted to be affected with hemophilia A. RECOMMENDATIONS Genetic consultation is indicated. Note: A familial positive control sample was tested. This result has been reviewed and approved by [redacted]

H=High, L=Low, *=Abnormal, C=Critical

BACKGROUND INFORMATION: Hemophilia A (F8) 2 Inversions

CHARACTERISTICS: Hemophilia A is characterized by deficiency of factor VIII clotting activity. Less than 1 percent factor VIII activity results in severe deficiency associated with spontaneous joint or deep muscle bleeding. Moderate deficiency (1-5 percent activity) and mild deficiency (6-40 percent activity) are associated with prolonged bleeding after tooth extractions, surgery, or injuries, and recurrent or delayed wound healing. Female carriers of hemophilia A may have increased bleeding tendencies.
EPIDEMIOLOGY: 1 in 5,000 live male births worldwide
CAUSE: Pathogenic F8 germline variants
INHERITANCE: X-linked recessive. In the estimated 30 percent of cases that appear to be de novo, the mother is found to be a carrier at least 80 percent of the time.
PENETRANCE: 100 percent in males. Approximately 30 percent of female carriers have factor VIII activity levels of less than 40 percent and are at risk for bleeding symptoms typically consistent with mild hemophilia A.
CLINICAL SENSITIVITY: 51 percent of variants causing severe hemophilia A are detected by F8 inversion testing. This assay does not detect F8 variants associated with mild or moderate hemophilia A in males.
METHODOLOGY: Intron 22-A and intron 1 inversions detected by inverse PCR and electrophoresis.
ANALYTICAL SENSITIVITY/SPECIFICITY: 99 percent
LIMITATIONS: A negative result does not exclude a diagnosis of or carrier status for hemophilia A. Diagnostic errors can occur due to rare sequence variations. F8 variants, other than the F8 type 1 or type 2 intron 22-A and intron 1 inversions, will not be detected. Rare F8 intron 22-A and intron 1 inversions with different breakpoints may not be detected by this assay.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

Counseling and informed consent are recommended for genetic testing. Consent forms are available online.

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
Maternal Contamination Study Fetal Spec	23-026-116766	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Maternal Contam Study, Maternal Spec	23-026-116766	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
F8 INV FE Specimen	23-026-116766	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Hemophilia A (F8) Inversions Interp	23-026-116766	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART

H=High, L=Low, *=Abnormal, C=Critical