Test Definition: CULFB

Fibroblast Culture for Biochemical or Molecular Testing, Chorionic Villi/Products of Conception/Tissue

Overview

Useful For

Producing cell cultures that can be used for enzymatic or molecular genetic analysis

Testing Algorithm

This processing test is for culturing chorionic villi, products of conception, skin fibroblasts, or other biopsy specimens for biochemical or molecular genetic studies. No analysis or interpretation of results is performed.

When this test is ordered, cryopreservation will be performed. For multiple assays on a patient utilizing the ordered fibroblast culture, only one culture is required regardless of the number of assays ordered. Once confluent flasks are established, the cultures are sent to other laboratories, either within Mayo Clinic Laboratories or to external sites, based on the specific testing requested.

To avoid delays, indicate testing to be performed and provide external lab paperwork for send out testing.

If viable cells are not obtained within 30 days, client will be notified.

If *Mycoplasma* is detected, all pending fibroblast clinical testing will be canceled, and samples will be discarded.

Special Instructions

- Final Disposition of Fetal/Stillborn Remains

Method Name

Cell Culture

NY State Available

Yes

Specimen

Specimen Type

Tissue

Ordering Guidance

This test is most useful for chorionic villus sampling, products of conception, and skin biopsy specimens. The specimen is cryopreserved for a minimum of 6 months.

If ordering this test to obtain DNA for testing at a different laboratory location, see Necessary Information.

Shipping Instructions

Advise Express Mail or equivalent if not on courier service.

Necessary Information

1. Include patient clinical history with request. This information will be used for any testing performed on the cultured cells.
2. Indicate the tests to be performed on the fibroblast culture cells.

Note: For testing performed on fibroblasts at locations other than Mayo Clinic Laboratories (MCL), **a MCL Test ID and test requisition for the requested laboratory are required**. Prior to specimen collection, call 800-533-1710 to confirm availability of send-out testing options. Courtesy DNA extraction on fibroblast cultures **will not be performed** for tests not in the MCL referral catalog.

3. Final Disposition of Fetal/Stillborn Remains **is required** for products of conception or stillbirth specimens.

Specimen Required

Submit only 1 of the following specimens:

Specimen Type: Autopsy
Supplies: Hank's Solution (T132)
Container/Tube: Sterile container with sterile Hank's balanced salt solution, Ringer's solution, or normal saline
Specimen Volume: 4-mm diameter
Collection Instructions:
1. Wash biopsy site with an antiseptic soap.
2. Thoroughly rinse area with sterile water.
3. Do not use alcohol or iodine preparations.
4. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis.

Specimen Type: Chorionic villi
Supplies: CVS Media (RPMI) and Small Dish (T095)
Container/Tube: 15 mL tube containing 15 mL of transport media
Specimen Volume: 20-30 mg
Collection Instructions:
1. Collect specimen by the transabdominal or transcervical method.
2. Transfer the chorionic villi specimen to a Petri dish containing transport medium.
3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua.

Specimen Type: Products of conception or stillbirth
Supplies: Hank's Solution (T132)
Container/Tube: Sterile container with sterile Hank's balanced salt solution, Ringer's solution, or normal saline
Specimen Volume: 1 cm(3) of placenta (including 20 mg of chorionic villi) **and** a 1 cm(3) biopsy specimen of muscle/fascia from the thigh

Collection Instructions: If a fetus cannot be specifically identified, collect 50 mg villus material or tissue that appears to be of fetal origin.
Additional Information: Do not send entire fetus.

Specimen Type: Cultured fibroblasts
Container/Tube: T-25 flask
Specimen Volume: 2 Full T-25 flasks
Specimen Stability Information: Ambient (preferred)/Refrigerated

Specimen Type: Skin biopsy
Supplies: Fibroblast Biopsy Transport Media (T115)
Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes of culture media can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin).
Specimen Volume: 4-mm punch

Forms

1. Biochemical Genetics Patient Information (T602)
2. Final Disposition of Fetal/Stillborn Remains **is required** for products of conception or stillbirth specimens.

Specimen Minimum Volume

See Specimen Required

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Tissue	Refrigerated (preferred)		
	Ambient		

Clinical & Interpretive

Clinical Information

Cultured cells may be used to perform a wide range of laboratory tests. Prior to testing, the tissue may need to be cultured to obtain adequate numbers of cells.

Reference Values

Not applicable

Cautions

Interfering factors:

-Inadequate amount of specimen may not permit adequate analysis
-Exposure of the specimen to temperature extremes (freezing or greater than 30 degrees C) may kill cells and interfere with attempts to culture cells
-Improper packaging may result in broken, leaky, and contaminated specimens during transport
-Transport time should not exceed 2 days
-Contamination by maternal cells may interfere with attempts to culture cells and may cause interpretive problems

Lack of viable cells:
-Bacterial contamination
-Failure to transport tissue in an appropriate media
-Excessive transport time
-Exposure of the specimen to temperature extremes (freezing or >30 degrees C)
-Improper packaging may result in broken or leaky specimen containers or contamination of specimens during transport

Clinical Reference

Arsham MS, Barch MJ, Lawce HJ, eds. The AGT Cytogenetics Laboratory Manual. 4th ed. John Wiley and Sons Inc; 2017

Performance

Method Description

Products of Conception/Autopsy/Stillbirth/Skin Biopsy:
The biopsy specimen is cut into small pieces, treated with collagenase, and placed in a tissue culture flask with Chang and MEM alpha-medium, 20 percent fetal bovine serum, and antibiotics to establish a fibroblast culture. The cultures are trypsinized into 1 to 3 T25 tissue culture flasks or 1 to 2 T75 tissue culture flasks.

Chorionic Villi Specimen:
The chorionic villi specimen is thoroughly cleaned using sterile forceps to remove the remaining maternal decidua and blood clots. The villi are then treated with trypsin and collagenase. The cells are grown in Chang and MEM-alpha medium for 5 to 10 days.(May KM, Saxe DF, Priest JH. Prenatal chromosome diagnosis. In: Arsham MS, Barch MJ, Lawce HJ, eds. The AGT Cytogenetics Laboratory Manual. 4th ed. John Wiley and Sons Inc; 2017:182-184)

PDF Report

No

Day(s) Performed

Monday through Friday

Report Available

41 to 42 days

Specimen Retention Time

Cell cultures: 6 months; Fresh tissue not utilized to establish cultures: 1 month

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Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Main Campus

Fees & Codes

Fees

- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

Test Classification

Not Applicable

CPT Code Information

88233
88240

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
CULFB	Fibroblast Culture for Genetic Test	96300-9

Result ID	Test Result Name	Result LOINC® Value
52327	Result Summary	50397-9
52329	Interpretation	69965-2
52328	Result	82939-0
CG770	Reason for Referral	42349-1
CG899	Specimen	31208-2
52331	Source	31208-2
52332	Method	85069-3
54625	Additional Information	48767-8
52333	Released By	18771-6