# Test Definition: RFCWT

Renal Pathology Tissue Consultation, Wet Tissue

## Overview

### Useful For

Evaluating and managing patients with kidney disease

Following the progression of known kidney disease or response to therapy

Determining the cause of dysfunction in the transplanted kidney (allograft)

### Reflex Tests

| Test Id | Reporting Name | Available Separately | Always Performed |
|---|---|---|---|
| LV4RP | Level 4 Gross and Microscopic, RB | No, (Bill Only) | No |
| SS2PC | SpecStain, Grp II, other | No, (Bill Only) | No |
| IFPCI | IF Initial | No, (Bill Only) | No |
| IHPCI | IHC Initial | No, (Bill Only) | No |
| IFPCA | IF Additional | No, (Bill Only) | No |
| EMR | EM, Renal Biopsy | No, (Bill Only) | No |

### Testing Algorithm

**Laboratory approval is required prior to ordering this test.** Contact Mayo Clinic Laboratories at 800-533-1710.

The Renal Pathology Consultation is performed by a Mayo Clinic renal pathologist and entails the performance of appropriate procedures and stains based on the material received, patient information, and specific findings on the case to determine a diagnosis. Optimal/standard diagnostic interpretation of a medical kidney biopsy requires integration of the light microscopy, immunofluorescence, and electron microscopy findings together with the clinical and laboratory data for the patient. Published standards by the Renal Pathology Society are followed for the diagnostic evaluation and reporting of non-neoplastic kidney disease.(1)

Light Microscopy:
Wet/unprocessed tissue submitted for light microscopy routinely includes the preparation of stains, which include hematoxylin and eosin, periodic acid Schiff, Masson trichrome, and Jones methenamine silver stains.

Immunofluorescence:
Wet/unprocessed tissue submitted for immunofluorescence may include the following stains to render an accurate diagnosis. These stains include IgG, IgA, IgM, C1q, C3, albumin, fibrinogen, kappa light chain, and lambda light chain stains with C4d added if the biopsy is an allograft. Albumin, Fibrinogen will be sent to Mayo Clinic Laboratories (MCL)-Rochester to be performed if needed.

The IgG subtypes (IgG1, IgG2, IgG3, IgG4) are typically only utilized if the biopsy shows features suspicious for a

monoclonal/monotypic deposition process involving IgG. These will be sent to MCL-Rochester to be performed if needed.

Alport (collagen IV, alpha 2, and alpha 5) staining is performed in the setting of biopsy findings that are consistent with hereditary nephritis/Alport syndrome. These will be sent to MCL-Rochester to be performed if needed.

Phospholipase A2 receptor staining is performed in the setting of membranous nephropathy/glomerulonephritis to aid in determining whether it is most likely primary/idiopathic or secondary. These will be sent to MCL-Rochester to be performed if needed.

Paraffin-Based Immunofluorescence Stains:
The paraffin-based immunofluorescence stains listed above would only be utilized in the special circumstance when there is no tissue or inadequate tissue available for standard immunofluorescence or if there are findings that raise concern for so-called "masked deposits.

Electron Microscopy:
Wet/unprocessed tissue submitted for electron microscopy will be processed for transmission electron microscopy. A formal interpretive report is issued, incorporating the findings from all tests performed for diagnostic purposes. Specimens will be sent to MCL-Rochester for electron microscopy scoping if needed.

### Special Instructions

- Renal Biopsy Patient Information
- Pathology Consultation Ordering Algorithm-MCF
- Renal Biopsy Preparation Instructions

### Highlights

Our consultative practice strives to provide the highest quality diagnostic, consultative service, balancing optimal patient care with a cost-conscious approach that supports the rapid turnaround time for diagnostic results.

### Method Name

Pathology Consultation

### NY State Available

No

## Specimen

### Specimen Type

Kidney Biopsy

### Ordering Guidance

This test is for a renal wet tissue consultation only. For a renal consultation on paraffin embedded tissue and slides,

order PATHC / Pathology Consultation which is performed at Mayo Clinic Laboratories-Rochester.

For test ordering guidance for other specimen types, see Pathology Consultation Ordering Algorithm.

## Shipping Instructions

1. Advise shipping specimens in Styrofoam transportation coolers to avoid extreme hot or cold temperatures to ensure specimens are received at required specimen stability temperature.
2. Attach the pathology address label included in the kit to the outside of the transport container.

## Necessary Information

**The following information is required:**

**1. All requisitions must be labeled with:**
-Patient name, date of birth, and medical record number
-Name and phone number of the referring pathologist or ordering physician
-Anatomic site and collection date

**2. All specimens must be labeled with:**
-Two patient identifiers (first and last name, date of birth, or medical record number)
-Specimen type and anatomic site

**3. A brief patient history is essential to achieve a consultation fully relevant to the ordering physician's needs.**

**All requisition and supporting information must be submitted in English.**

## Specimen Required

**Specimen Type:** Tissue
**Supplies:** Renal Biopsy Kit (T968)
**Source:** Kidney
**Specimen Volume:** Entire specimen
**Collection Instructions:** Collect specimens according to the instructions in Renal Biopsy Preparation Instructions.
**Additional Information**:
Rush (same day as receipt) interpretation is available on Saturday and holidays for clinically emergent cases (eg, acute kidney failure, rapidly progressive glomerulonephritis, acute kidney allograft dysfunction) but requires advanced notification and approval by a Mayo Clinic Renal Pathologist 904-956-3318.
To request RUSH service outside regular business hours, call 800-533-1710.

## Digital Image Access

1. Information on accessing digital images for renal consult cases can be accessed through this website: https://news.mayocliniclabs.com/ihc-stains/
2. Clients ordering stains using a manual requisition form will not have access to digital images.

## Forms

1. Renal Biopsy Patient Information
2. If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

### 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 |
|---|---|---|---|
| Kidney Biopsy | Ambient (preferred) | | |
| | Refrigerated | | |

## Clinical & Interpretive

### Clinical Information
The Mayo Renal Pathology service is staffed by board-certified pathologists who have a special interest in non-neoplastic diseases of the kidney.

Kidney biopsy has proven to be of value in the clinical evaluation and management of patients with kidney disease, including acute and chronic renal insufficiency, nephrotic syndrome, nephritic syndrome, proteinuria, and hematuria, and in the overall management of kidney transplant recipients.

Optimal interpretation of a kidney biopsy requires integration of clinical and laboratory results with light microscopic, immunofluorescent histology, and electron microscopy findings.

### Reference Values
Results of the consultation are reported in a formal pathology report, which may include a description of ancillary test results (if applicable) and an interpretive comment.

### Interpretation
Both a verbal report and a faxed report are provided to nephrologists for Mayo Clinic Laboratories cases.

Representative electron microscopy images and significant positive immunofluorescent stain findings can be provided on a CD upon request.

In most cases, the electron microscopy results are reported as an addendum, and a final report is issued including these findings. This final report is again faxed to the submitting nephrologist and mailed to the submitting pathology laboratory, along with a representative set of the light microscopy slides.

Digital images for electron microscopy and immunofluorescent stains may be downloaded as needed using the digital imaging link provided in the final report.

### Cautions

Accurate and timely interpretation of a kidney biopsy requires integration of light microscopic, immunofluorescent histology, and electron microscopic findings with clinical and laboratory data. Failure to provide the relevant clinical history and laboratory results may result in a delay in the interpretation or the inability to adequately correlate the biopsy findings with the clinical picture.

### Clinical Reference

1. Chang A, Gibson IW, Cohen AH, et al. A position paper on standardizing the nonneoplastic kidney biopsy report. Clin J Am Soc Nephrol. 2012; 7(8):1365-1368. doi:10.2215/CJN.02300312
2. Jennette JC, D'Agati VD, Olson JL, Silva FG, eds. Heptinstall's Pathology of the Kidney. 7th ed. Lippincott Williams and Wilkins; 2014

## Performance

### Method Description

Gross and microscopic examination of tissue. Ancillary testing is ordered at the discretion of the Mayo Clinic pathologist. The results of all testing will be provided in the context of the final pathology report.(Unpublished Mayo method)

### PDF Report

No

### Day(s) Performed

Monday through Friday
Rush (same day as receipt) interpretation is available on weekends and holidays for clinically emergent cases (eg, acute kidney failure, rapidly progressive glomerulonephritis, acute kidney allograft dysfunction) but requires advanced notification and approval by a Mayo Clinic pathologist.

### Report Available

2 to 10 days; Cases requiring additional material or ancillary testing may require additional time.

### Specimen Retention Time

Formalin-fixed, IF Native, IF Positive C4D, Material made at Mayo Clinic: Indefinitely; IF Negative C4D: 2 years

### Performing Laboratory Location

Mayo Clinic Jacksonville Hospital Lab

## 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

88305 (If appropriate)
88348 (If appropriate)
88313 (If appropriate)
88346 (If appropriate)
88350 (If appropriate)

## LOINC® Information

| Test ID | Test Order Name | Order LOINC® Value |
|---|---|---|
| RFCWT | Renal Pathology Tissue Consult, MCF | 65757-7 |

| Result ID | Test Result Name | Result LOINC® Value |
|---|---|---|
| 620416 | Interpretation | 59465-5 |
| 620417 | Participated in the Interpretation | No LOINC Needed |
| 620418 | Report electronically signed by | 19139-5 |
| 620419 | Addendum | 35265-8 |
| 620420 | Gross Description | 22634-0 |
| 620421 | Material Received | 22633-2 |
| 620422 | Disclaimer | 62364-5 |
| 620423 | Case Number | 80398-1 |