GENOPTIX®
MEDICAL LABORATORY

Coding Training Guide (V5)

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GENOPTIX MEDICAL LABORATORY

Coding Training Guide

Genoptix Medical Laboratory

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Genoptix Coding Training Guide

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Coding Overview

Genoptix Medical Reports sometimes require that we review the reports and verify that the coding is correct. This document provides training for employees to review Flow Cytometry, Cytogenetics, and Pathology reports and to be able to code them accurately so that our patient and client billing is generated correctly.

Genoptix Testing

Genoptix offers several tests. This coding training guide only covers the three most common types (Flow Cytometry, Cytogenetics, and Hematopathology (Path) of reports that you may encounter. However, here is a more complete list of all the testing that Genoptix does and that you may encounter as you work:

- Flow Cytometry
- Flow PNH
- CHART
- COMPASS
- Cytogenetics
- Hematopathology (Path)
- BCR/ABL
- HER2 by FISH
- IgVH Hypermutation Analysis
- JAK2
- JAK2 PCR
- MPL W515 L/K Mutation Analysis For MPD
- NexCourse – consists of Non-Small Cell Lung Cancer (NSCLC) and Colorectal Cancer (CRC) testing. Some NexCourse tests are set up to automatically code correctly when they come from the lab. Others must be coded using the CRC_NSCLC_CPTCode_Matrix.xls that is available on the billing server.
    - NexCourse Non-Small Cell Lung Cancer (NSCLC)
        - EGFR Amplification Analysis Panel (Block)
        - EGFR Mutation Analysis (Block)
        - EML4-ALK Fusion/Rearrangement by FISH
        - ERCC1 Gene Expression Analysis (Block)
        - ERCC1 & TS (Block)
        - ERCC1 & RRM (Block)
        - ERCC1 & RRM & TS (Block)
        - KRAS Mutation Analysis (Block)
        - KRAS & EGFRmut (Block)
        - RRM1 Gene Expression (Block)
        - RRM1 & TS (Block)
        - Thymidylate Synthase (TS) Gene Expression Analysis (Block)
        - UGT1A1 Genotyping (Block)
    - NexCourse Colorectal Cancer (CRC)
        - CTC – Circulating Tumor Cell (PB)
        - DPD (PB)
        - UGT1A1 (PB)

        - DPD & UGT1A1 (PB)
        - DPD (Block)
        - DPD & UGT1A1 (Block)
        - KRAS & EGFRmut (Block)
        - KRAS Mutation Analysis (Block)
        - BRAF (Block)
        - KRAS & BRAF (Block)
        - MSI (Block)
        - KRAS & MSI (Block)
        - BRAF & MSI (Block)
        - KRAS & BRAF & MSI (Block)
        - ERCC1 (Block)
        - TS (Block)
        - ERCC1 & TB (Block)
    - NexCourse BCa by AQUA Technology
- RRM1 Gene Expression
- Special Orders – Special orders have report file names that begin with 'SO'.
    - JAK2 (Sendout) (example)

For a complete list of tests, CPT Codes, and specimen requirements, see:

https://clientlounge.genoptix.com/ClientLounge/images/2010_DOS/10_10_Testing.pdf

Note: You must be able to log into Compass to access this link.

Flow Cytometry Coding Examples

When you code Flow reports, count the number of markers described in the "Markers Run" section of the report.

Coding Flow Cytometry Reports

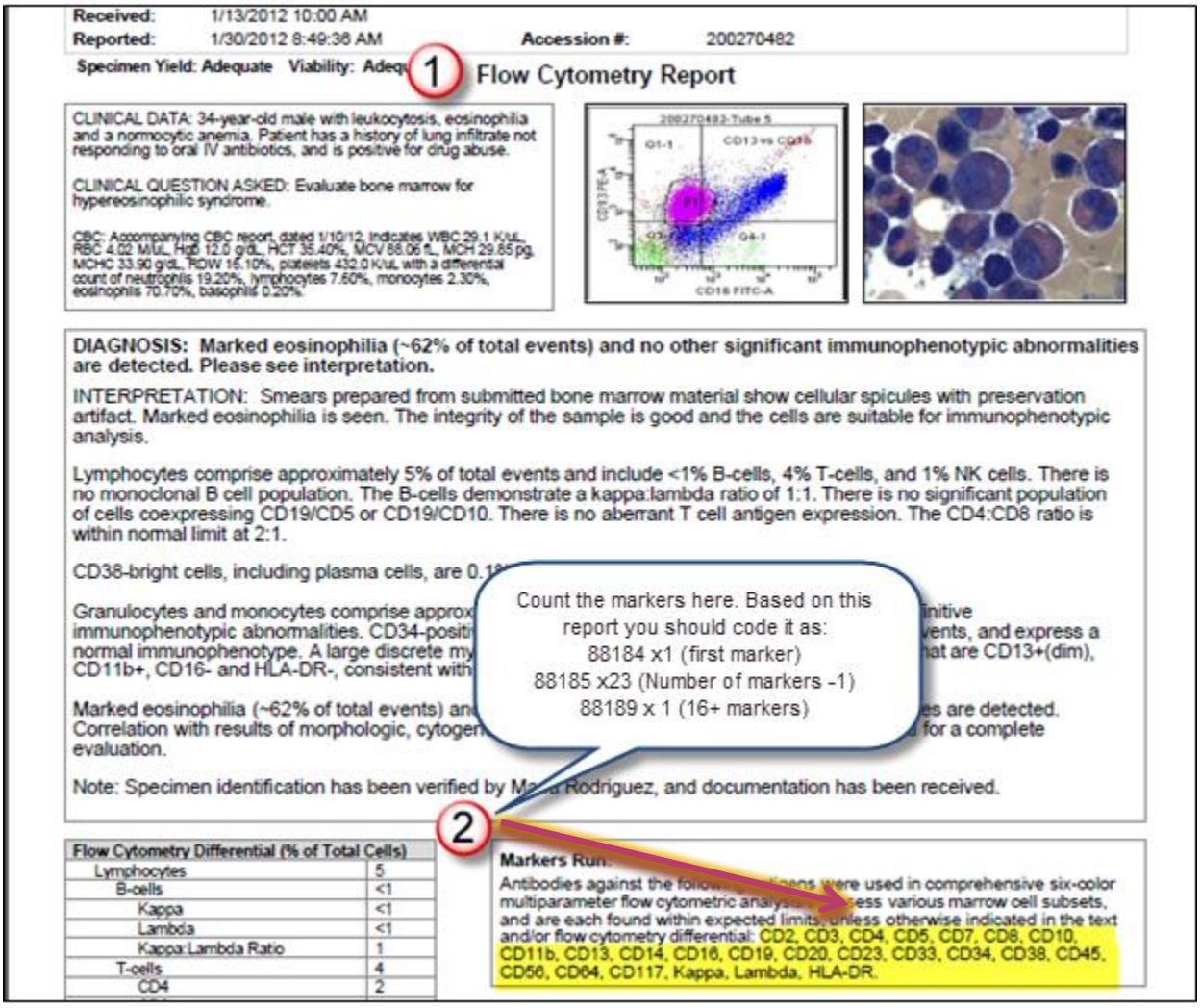
To code for Flow Cytometry reports, you must know the following CPT code information.

We use the following CPT codes to report qualitative determination of cell surface cytoplasmic or nuclear markers:

Constants on every Flow Cytometry Report		
88182	DNA, cell cycle analysis.	Rarely used.
88184	Flow cytometry, cell surface, cytoplasmic, or nuclear marker, technical component only; first marker.	Will always be 1.
88185	Flow cytometry, cell surface, cytoplasmic, or nuclear marker, technical component only; each additional marker after accounting for the first one in 88184.	Will be the total number of markers on the page, less 1.
Use of the following three CPT codes depends on the total number of markers. Only use one of these codes:		
88187	Flow cytometry, interpretation (professional component); 2-8 markers.	Look at the total number of markers and select one of these codes. You will enter 1 unit if your total falls in this range.
88188	Flow cytometry, interpretation (professional component); 9-15 markers.	Look at the total number of markers and select one of these codes. You will enter 1 unit if your total falls in this range.
88189	Flow cytometry, interpretation (professional component); 16 or more markers.	Look at the total number of markers and select one of these codes. You will enter 1 unit if your total falls in this range.

Note: Usually we will use 3 CPT codes in coding the Flow reports unless we only do the technical component. In that case we would not use codes 88187, 88188, or 88189 as those are used for the professional component only.

Here is an example of the kind of Flow Cytometry report you will come across while coding reports in the Genoptix Billing Application (GBA).



Note: In the Genoptix Billing System, this report can also be referred to as a Flow Screening, Flow Report, or Flow Cytometry Report. These names all refer to the same test and report.

1. Look at the Report Type for any report that you are coding.
2. Count the markers at the bottom of the "Markers Run" section.

How many markers do you count on this Flow report? There are 24 markers.

Note: Sometimes you may see a Zap-70 marker and you will want to verify that if it is listed in the report body it should also appear in the Markers Run area of the report. You will want to charge for it either way as another marker.

Instructions for Coding a Flow Cytometry Report

In coding, we will look at the two sections of the Flow Cytometry report (page 5) and will code the report as follows.

1. Look at the type of report. Since it is a Flow Cytometry report, you will always use CPT code 88184 with a value of 1 unit.
2. Review the Markers Run section and count up the total number of markers (highlighted). Subtract 1 from the total number of markers. Use CPT Code 88185 with a value of the total

number of units – 1. In this example, there are 24 markers, so you would use 23 units for code 88185.

3. Based on the fact that there are 24 markers total, you will code 88189 with a value of 1 unit.

Example Coding Answers

88184 1 Unit

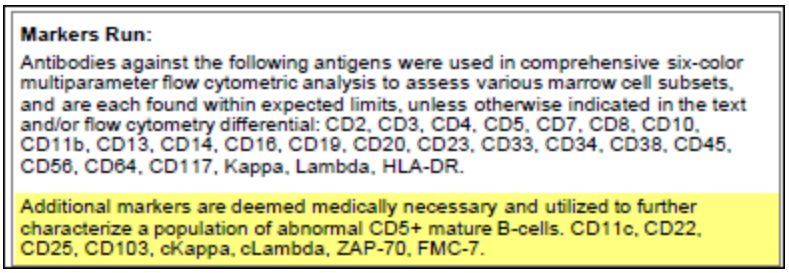
88185 23 Units

88189 1 Unit

Additional Markers

Sometimes Flow reports will include additional markers. We added additional markers to our reports in response to a request by Medicare, who wanted them as documentation for instances when we billed for more than 23 markers.

In the following example, notice that there are 8 additional markers.



Markers Run:

Antibodies against the following antigens were used in comprehensive six-color multiparameter flow cytometric analysis to assess various marrow cell subsets, and are each found within expected limits, unless otherwise indicated in the text and/or flow cytometry differential: CD2, CD3, CD4, CD5, CD7, CD8, CD10, CD11b, CD13, CD14, CD16, CD19, CD20, CD23, CD33, CD34, CD38, CD45, CD56, CD64, CD117, Kappa, Lambda, HLA-DR.

Additional markers are deemed medically necessary and utilized to further characterize a population of abnormal CD5+ mature B-cells. CD11c, CD22, CD25, CD103, cKappa, cLambda, ZAP-70, FMC-7.

So, you would code this report as follows:

88184 1 Unit

88185 31 Units

88189 1 Unit

Remember to always look for additional markers when you code Flow reports.

You Try It! (Example 1)

Now let's look at a report and have you code it using the knowledge you just learned.

Reported: 1/6/2012 2:26:02 PM **Accession #:** 200269152

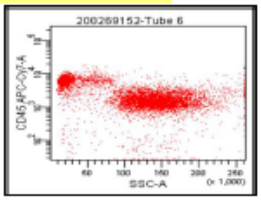
Specimen Yield: Adequate Viability: Adequate

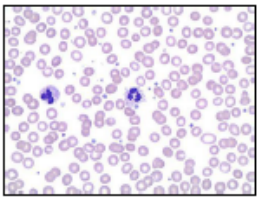
Flow Cytometry Report

CLINICAL DATA: 61-year-old male with persistent leukocytosis.

CLINICAL QUESTION ASKED: Evaluate whole blood for a myeloproliferative neoplasm.

CBC: Accompanying CBC report, dated 01/04/2012, indicates WBC 9.4 K/uL, RBC 5.97 MuL, Hgb 15.4 g/dL, HCT 48.2%, MCV 80.8 fL, MCH 25.8 pg, MCHC 32.0 g/dL, RDW 17.5%, platelets 338 K/uL with a differential count of granulocytes 68.9%, lymphocytes 24.7%, mid 6.4%.





DIAGNOSIS: No significant immunophenotypic abnormalities are detected. Please see interpretation.

INTERPRETATION: Blood smears are cellular. The integrity of the sample is suitable for analysis.

B-cells show normal antigen expression, and the kappa:lambda ratio is normal. There is no evidence of a monotypic B-cell population. T-cells show normal antigen expression, and the CD4:CD8 ratio is normal. NK-cells are not increased. Granulocytes and monocytes show normal antigen expression. CD34-positive blasts are not increased.

No significant immunophenotypic abnormalities are detected. Correlation with all clinical data, morphology, and ancillary studies is recommended for complete evaluation.

Flow Cytometry Differential (% of Total Cells)	
Lymphocytes	21
B-cells	2
Kappa	1
Lambda	1
Kappa:Lambda Ratio	1.4
T-cells	19
CD4	15
CD8	4

Markers Run:
Antibodies against the following antigens were used in comprehensive six-color multiparameter flow cytometric analysis to assess various marrow cell subsets, and are each found within expected limits, unless otherwise indicated in the text and/or flow cytometry differential: CD2, CD3, CD4, CD5, CD7, CD8, CD10, CD11b, CD13, CD14, CD16, CD19, CD20, CD23, CD33, CD34, CD38, CD45, CD56, CD64, CD117, Kappa, Lambda, HLA-DR.

1. What are the constants on this report based on what you know already about coding Flow reports?
2. How many markers do you count on this report?
3. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
88182	
88184	
88185	
88187	
88188	
88189	

Note: Find the answers on page 30 to check your work.

You Try It! (Example 2)

Here is a second example for you to code. Take a look at this report and then complete the coding work for it.

Reported: 1/6/2012 6:06:02 PM **Accession #:** 200269178

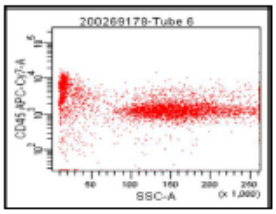
Specimen Yield: Adequate Viability: Adequate

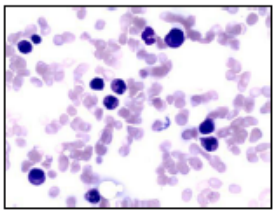
Flow Cytometry Report

CLINICAL DATA: 76-year-old female with anemia.

CLINICAL QUESTION ASKED: Rule out a myelodysplastic syndrome or plasma cell dyscrasia.

CBC: Accompanying CBC report, dated 12/22/11, indicates WBC 5.2 K/uL, RBC 3.25 M/uL, Hgb 9.1 g/dL, HCT 28.6%, MCV 87.9 fL, MCH 28.2 pg, MCHC 32.0 g/dL, RDW 15.8%, platelets 203 K/uL with a differential count of neutrophils 65.8%, lymphocytes 23.1%, monocytes 8.3%, eosinophils 2.5%, basophils 0.3%.





DIAGNOSIS: Mild hematogone hyperplasia is noted. No other significant immunophenotypic abnormalities are detected. Please see interpretation.

INTERPRETATION: Aspirate smears are cellular. The integrity of the sample is suitable for analysis.

B-cells show normal antigen expression, and the kappa:lambda ratio is normal. There is no evidence of a monotypic B-cell population. Plasma cells are not significantly increased. CD38/CD138 positive plasma cells are ~1% of nucleated cells. They show a cytoplasmic kappa:lambda ratio of 1:1, and no definitive monoclonal plasma cell population. No significant CD56 expression by plasma cells is noted. CD19, CD10-positive cells, representing hematogones are increased, and comprise ~4% of total cells. T-cells show normal antigen expression, and the CD4:CD8 ratio is normal. NK-cells are not increased. Granulocytes and monocytes show normal antigen expression. CD34-positive blasts are not increased.

In summary, mild hematogone hyperplasia is noted (~4% of nucleated cells analyzed). No increased blasts, diagnostic immunophenotypic evidence of non-Hodgkin lymphoma or monoclonal plasma cell population is identified. No other significant immunophenotypic abnormalities are detected. Hematogone hyperplasia may be seen with a marrow regenerative process in response to a stress such as infection, drug/chemotherapy, post transplant states or immune disorders or other insult. Hematological conditions such as myelodysplastic syndrome or a myeloproliferative neoplasm cannot be definitively excluded by flow cytometric analysis. Correlation with all clinical data, morphology, and ancillary studies is recommended for complete evaluation.

Flow Cytometry Differential (% of Total Cells)	
Lymphocytes	16
B-cells	9
Kappa	2
Lambda	2
Kappa:Lambda Ratio	1.1
T-cells	6
CD4	3

Markers Run:

Antibodies against the following antigens were used in comprehensive six-color multiparameter flow cytometric analysis to assess various marrow cell subsets, and are each found within expected limits, unless otherwise indicated in the text and/or flow cytometry differential: CD2, CD3, CD4, CD5, CD7, CD8, CD10, CD11b, CD13, CD14, CD16, CD19, CD20, CD23, CD33, CD34, CD38, CD45, CD56, CD64, CD117, Kappa, Lambda, HLA-DR, CD138, cKappa, cLambda.

1. How many markers do you count on this report?
2. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
88182	
88184	
88185	
88187	
88188	
88189	

Note: Find the answers on page 30 to check your work.

You Try It! (Example 3)

Flow-Screening Panel

Markers Run
Antibodies against the following antigens were used in comprehensive six-color multiparameter flow cytometric analysis to assess various marrow cell subsets, and are each found within expected limits, unless otherwise indicated in the text and/or flow cytometry differential: CD2, CD3, CD4, CD5, CD7, CD8, CD10, CD11b, CD13, CD14, CD16, CD19, CD20, CD23, CD33, CD34, CD38, CD45, CD56, CD64, CD117, Kappa, Lambda, HLA-DR.

Additional markers are deemed medically necessary and utilized to further characterize a population of abnormal CD5+ mature B-cells. CD11c, CD22, CD25, CD103, cKappa, cLambda, ZAP-70, FMC-7.

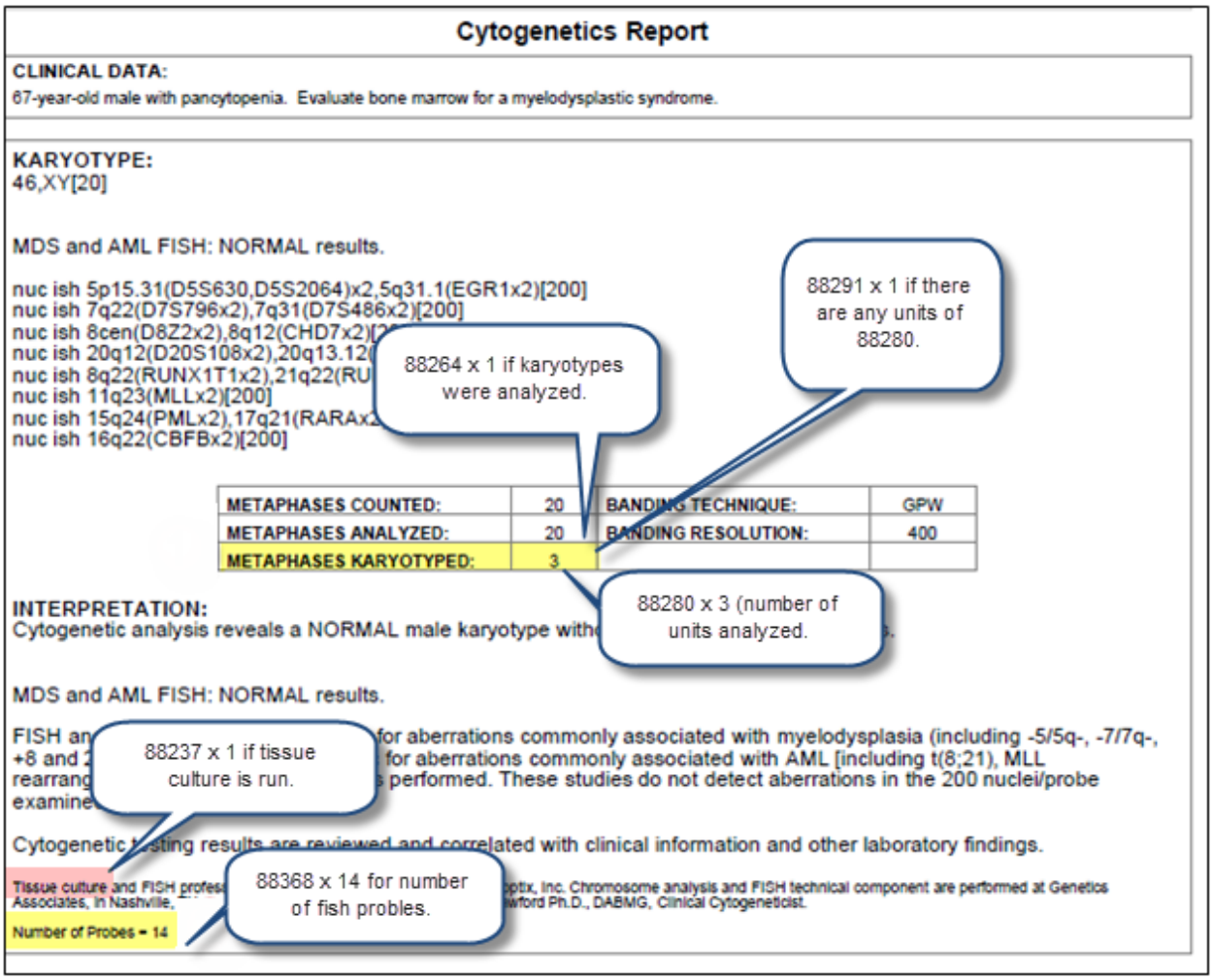
1. How many markers do you count on this report?
2. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
88182	
88184	
88185	
88187	
88188	
88189	

Note: Find the answers on page 30 to check your work.

Cytogenetics Coding Examples

Cytogenetics testing at Genoptix consists of two types: Fluorescence in situ hybridization (FISH) and karyotype analysis. Here is an example of a typical Cytogenetics Report.



1. Look to see if there are any karyotypes analyzed.
    a. Was karyotype testing done? If yes, use 88264 x1.
    b. How many metaphases were karyotyped during testing? Use 88280 x the number of units that were karyotyped. In this example, that would be 3 units.
    c. If there are any units of 88280, use 88291 x 1 unit.
2. The number of FISH probes used in the test.
    a. If the fish probes testing was computer assisted, use 88367 x the number of fish probes (14 in this example).
    b. If the fish probes testing was not computer assisted, use 88368 x the number of fish probes (14 in this example).

Coding Cytogenetics Report

To code for Cytogenetics reports, you must know the following CPT code information.

We use the following CPT codes when coding cytogenetics reports:

Constants on every Cytogenetics Report		
88112-TC	This is the technical component of 88112.	Only used when "Intelligent" FISH testing is done. Will have a value of 1.
88237	Tissue culture for neoplastic disorders; bone marrow, blood cells.	Will always be 1.
88264	Chromosome karyotypes analysis.	Will always be 1.
88280	(Chromosome analysis; additional karyotypes, each study).	Enter the number that appears next to item 1 in the report above.
88291	Cytogenetics and molecular cytogenetics, interpretation and report.	Will always be 1 IF there is a karyotype value for 88280.
Variables on every Cytogenetics Report		
88367	Morphometric analysis, in situ hybridization, (quantitative or semi-quantitative), each probe, and computer assisted.	Enter the number of FISH probes (use when the test is computer-assisted).
88368	Morphometric analysis, in situ hybridization, (quantitative or semi-quantitative), each probe, manual.	Enter the number of FISH probes (item 2 on the report example). This is the usual code that will be used unless otherwise noted.

Instructions for Coding a Cytogenetics Report

In coding, we will look at the Cytogenetics report (above) and will code the report as follows.

1. Look at the type of report. Since it is a Cytogenetics report, you will always use CPT code 88237 with a value of 1 unit.
2. The other constants are CPT codes 88264 and 88291 which will each have a value of 1.
3. Based on the fact that there are 14 FISH Probes, you will code 88368 with a value of 14 units. You would use 88367 when the report states that the test is "computer assisted," so you will want to keep an eye out for that text when you review your report.

Example Coding Answers

88237 1 Unit - Tissue Culture

88264 1 Unit – Indicates that karyotypes were analyzed.

88280 3 Units - Number of karyotypes that were analyzed.

88291 1 Unit – If there were any units of 88280, add 1 unit.

88368 14 Units – The number of non-computer-assisted fish probes.

You Try It! (Cytogenetics Example 1)

Now let's look at a report and have you code it using the knowledge you just learned.

Cytogenetics (Any Lab)

Description	Result
Metaphases Counted	20
Metaphases Analyzed	20
Metaphases Karyotyped	3
Banding Technique	GTG
Banding Resolution	350

1

Number of Probes= 7

2

This report was electronically signed by Farzad Nooraie, DABMG, Associate Director, Cytogenetics, on 01/11/2012.

Clinical Data
65-year-old male with iron deficiency anemia. Previous Flow Cytometry Report on peripheral blood shows CD5+ monoclonal kappa B-cell population (21% of cells) (collected 12/12/11, 200265778). Evaluate bone marrow for chronic lymphocytic leukemia.

Karyotype
47,XY,+12[3]/46,XY[17]

FISH
CLL and CCND1-IGH FISH: ABNORMAL results with +12.

nuc ish 11q13(CCND1x2),14q32(IGH@x2)[200]
nuc ish 11cen(D11Z1x2),11q22.3(ATMx2)[200]
nuc ish 12cen(D12Z3x3)[43/200]
nuc ish 13q14.3(D13S319,D13S25)x2,13q34(LAMP1x2)[200]
nuc ish 17p13.1(TP53x2),17cen(D17Z1x2)[200]

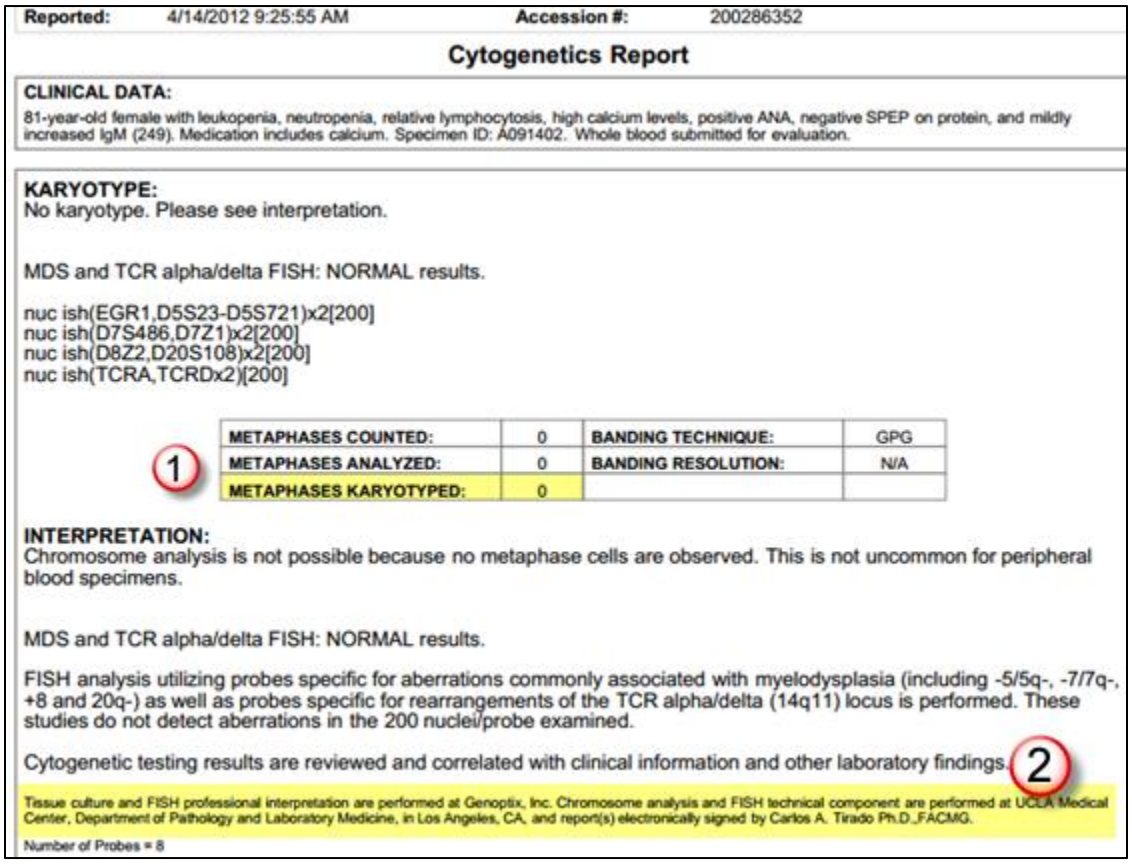
1. How many fish probes?
2. How many metaphases were karyotyped?
3. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
88237	
88264	
88280	
88291	
88367	
88368	

Note: Find the answers on page 35 to check your work.

You Try It! (Cytogenetics Example 2)

Here is another Cytogenetics Report that is different from our first example.



Reported: 4/14/2012 9:25:55 AM **Accession #:** 200286352

Cytogenetics Report

CLINICAL DATA:
81-year-old female with leukopenia, neutropenia, relative lymphocytosis, high calcium levels, positive ANA, negative SPEP on protein, and mildly increased IgM (249). Medication includes calcium. Specimen ID: A091402. Whole blood submitted for evaluation.

KARYOTYPE:
No karyotype. Please see interpretation.

MDS and TCR alpha/delta FISH: NORMAL results.

nuc ish(EGR1,D5S23-D5S721)x2[200]
nuc ish(D7S486,D7Z1)x2[200]
nuc ish(D8Z2,D20S108)x2[200]
nuc ish(TCRA,TCRDx2)[200]

1

METAPHASES COUNTED:	0	BANDING TECHNIQUE:	GPG
METAPHASES ANALYZED:	0	BANDING RESOLUTION:	N/A
METAPHASES KARYOTYPED:	0		

INTERPRETATION:
Chromosome analysis is not possible because no metaphase cells are observed. This is not uncommon for peripheral blood specimens.

MDS and TCR alpha/delta FISH: NORMAL results.

FISH analysis utilizing probes specific for aberrations commonly associated with myelodysplasia (including -5/5q-, -7/7q-, +8 and 20q-) as well as probes specific for rearrangements of the TCR alpha/delta (14q11) locus is performed. These studies do not detect aberrations in the 200 nuclei/probe examined.

Cytogenetic testing results are reviewed and correlated with clinical information and other laboratory findings. 2

Tissue culture and FISH professional interpretation are performed at Genoptix, Inc. Chromosome analysis and FISH technical component are performed at UCLA Medical Center, Department of Pathology and Laboratory Medicine, in Los Angeles, CA, and report(s) electronically signed by Carlos A. Tirado Ph.D.,FACMG.

Number of Probes = 8

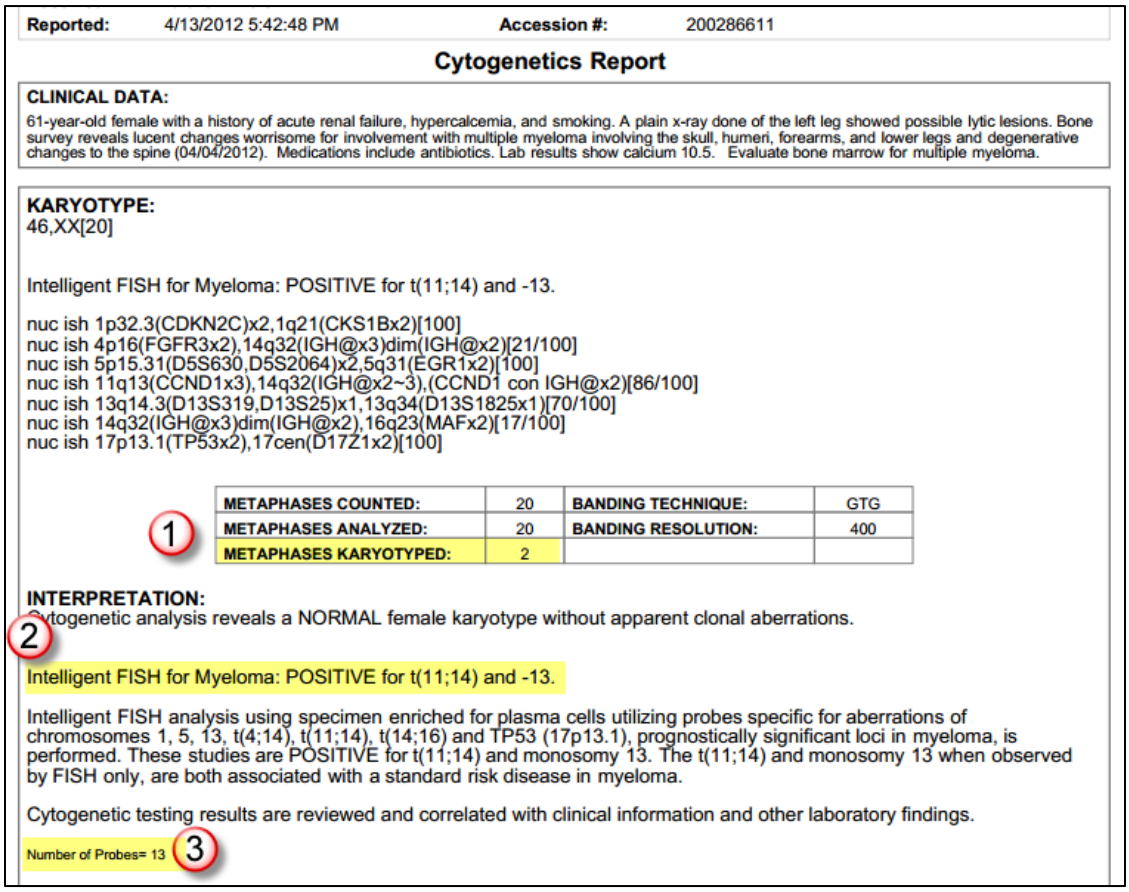
1. Notice that there are no Metaphases Karyotyped for this report.
2. Notice that item 2 is a partial send out. You will want to locate this kind of notation as it may impact how you would bill the tests on this report. In this example, 88264 and 88280 were done at the UCLA Lab. This is one reason why we ask that you review the entire report.
3. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
88237	
88264	
88280	
88291	
88367	
88368	

Note: Find the answers on page 35 to check your work.

You Try It! (Cytogenetics Example 3)

Here is a third example of a Cytogenetics Report. Look at this report and try to code it.



Reported: 4/13/2012 5:42:48 PM **Accession #:** 200286611

Cytogenetics Report

CLINICAL DATA:
61-year-old female with a history of acute renal failure, hypercalcemia, and smoking. A plain x-ray done of the left leg showed possible lytic lesions. Bone survey reveals lucent changes worrisome for involvement with multiple myeloma involving the skull, humeri, forearms, and lower legs and degenerative changes to the spine (04/04/2012). Medications include antibiotics. Lab results show calcium 10.5. Evaluate bone marrow for multiple myeloma.

KARYOTYPE:
46,XX[20]

Intelligent FISH for Myeloma: POSITIVE for t(11;14) and -13.

nuc ish 1p32.3(CDKN2C)x2,1q21(CKS1Bx2)[100]
nuc ish 4p16(FGFR3x2),14q32(IGH@x3)dim(IGH@x2)[21/100]
nuc ish 5p15.31(D5S630,D5S2064)x2,5q31(EGR1x2)[100]
nuc ish 11q13(CCND1x3),14q32(IGH@x2~3),(CCND1 con IGH@x2)[86/100]
nuc ish 13q14.3(D13S319,D13S25)x1,13q34(D13S1825x1)[70/100]
nuc ish 14q32(IGH@x3)dim(IGH@x2),16q23(MAFx2)[17/100]
nuc ish 17p13.1(TP53x2),17cen(D17Z1x2)[100]

1	METAPHASES COUNTED:	20	BANDING TECHNIQUE:	GTG
	METAPHASES ANALYZED:	20	BANDING RESOLUTION:	400
	METAPHASES KARYOTYPED:	2		

INTERPRETATION:
Cytogenetic analysis reveals a NORMAL female karyotype without apparent clonal aberrations.

2 Intelligent FISH for Myeloma: POSITIVE for t(11;14) and -13.

Intelligent FISH analysis using specimen enriched for plasma cells utilizing probes specific for aberrations of chromosomes 1, 5, 13, t(4;14), t(11;14), t(14;16) and TP53 (17p13.1), prognostically significant loci in myeloma, is performed. These studies are POSITIVE for t(11;14) and monosomy 13. The t(11;14) and monosomy 13 when observed by FISH only, are both associated with a standard risk disease in myeloma.

Cytogenetic testing results are reviewed and correlated with clinical information and other laboratory findings.

Number of Probes= 13 3

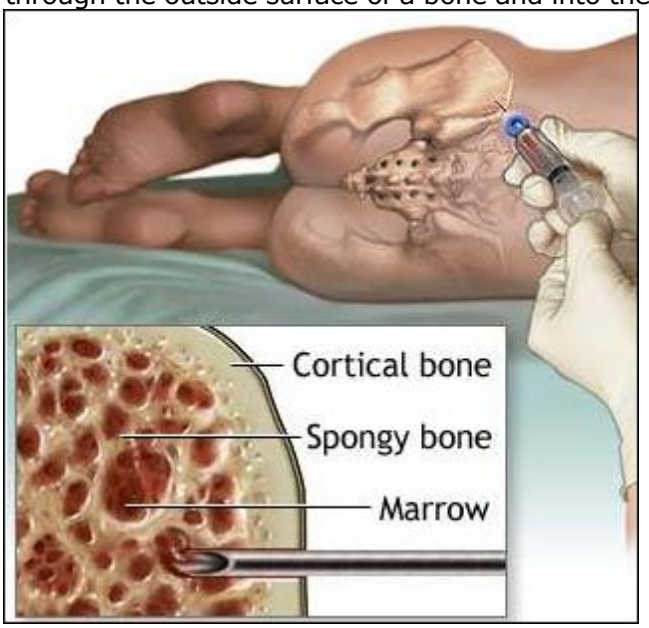
1. Note the Metaphases Karyotyped total.
2. This report has an Intelligent FISH test.
3. Notice the number of probes.
4. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
88112-TC	
88230	
88237	
88264	
88280	
88291	
88367	
88368	

Note: Find the answers on page 35 to check your work.

Pathology Coding

Bone marrow is the tissue where blood cells are made. A Bone marrow biopsy is the procedure that doctors use to collect a sample. When doctors collect a bone marrow specimen for testing (also known as harvesting), they do it using a long needle (about half as wide as a pencil) that is inserted through the outside surface of a bone and into the middle of the bone, where the marrow is located.



Most often, the harvesting process is performed from the pelvis but could also be done from the breastbone. The patient is awake and alert during the procedure, although they may be medicated. The procedure usually takes about an hour to perform. A bone marrow extraction is a very painful process so we treat our specimens like gold and don't ever want to cause a patient to have to have a second extraction.

The harvesting occurs in one spot on the patient's body, but each part (core, aspirate, clot, and peripheral blood) require repositioning and pressure which will be felt by the patient and could potentially cause them more pain. The bone marrow biopsy and the aspirate collection process use different needles which is an additional cause of discomfort or pain for the patient.

Needle used during marrow extraction.

Pathology coding is more complex coding than the first two types of coding covered earlier in this guide. A biopsy is a medical test commonly performed by a surgeon or an interventional radiologist involving sampling of cells or tissues for examination. It is the medical removal of tissue from a living subject to determine the presence or extent of a disease. The tissue is generally examined under a microscope by a pathologist, and can also be analyzed chemically. These results are then written in a Pathology Report that we receive and then code for billing.

At Genoptix, we perform tests on bone marrow and peripheral blood. They consist of testing done to the following specimens:

- Bone Marrow Specimen – consists of three parts:
  - Core – Bone Marrow is a part of the specimen.
  - Aspirate – Is a part of the blood that surrounds the bone marrow specimen.
  - Clot – The blood clot is also part of the bone Marrow specimen.
- Peripheral blood - Peripheral blood cells are the cellular components of blood, consisting of red blood cells, white blood cells, and platelets, which are found within the circulating pool of blood and not sequestered within the lymphatic system, spleen, liver, or bone marrow.

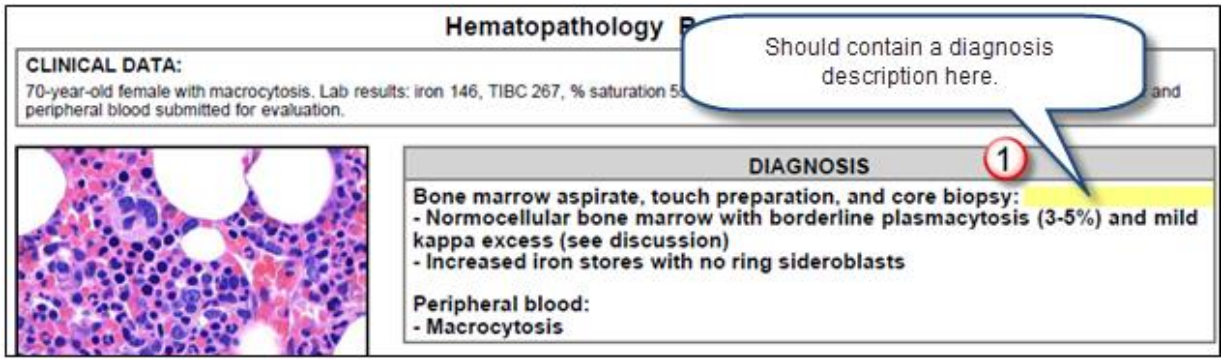
Codes Used on Pathology Reports

Codes Used on Pathology Reports		
85060	Blood smear, peripheral, interpretation by physician with written report. Use whenever you see "Peripheral Blood" on the report.	Only 1 unit IF the specimen collected is peripheral blood. **Note:** If the collection is a "bilateral" you would add 2 units when you code.
85097	Bone marrow, smear interpretation Aspirate Smears – Iron stain (No PAS)	
88161	Known internally as "Touch Prep". Preparation, screening, and interpretation. We cannot bill for this if we have any units of 88097.	We code for this but are not usually paid for prep work. The system will not move this code into HARP inquiry.
88304	Level III – Surgical pathology, gross and microscopic examination.	
88305	Protein S, total. Use for: Core – Iron PAS (Periodic Acid Schiff test) Clot - Iron PAS	
88305-26	Protein S, total. Use for: Core – Iron PAS Clot - Iron PAS	Use this modifier for the professional component of services.
88307	Level V - Surgical pathology, gross and microscopic examination.	Hardly used.
88309	Level VI – Surgical pathology, gross and microscopic examination.	Hardly used.
88311	Decalcification procedure (list separately in addition to code 88305) for surgical pathology examination. **Note:** This test is only done on bone so if you are processing a test for peripheral blood, you would not use this code.	Use only on core biopsy.
88311-26	Decalcification procedure (list separately in addition to code 88305 for surgical pathology examination). Use this modifier for the professional component of services. **Note:** This test is only done on bone so if you are processing a test for peripheral blood, you would not use this code.	Use only on core biopsy.
88312	Special stains (microorganisms e.g. Gridley, acid fast, methenamine silver) including interpretation and report, each.	

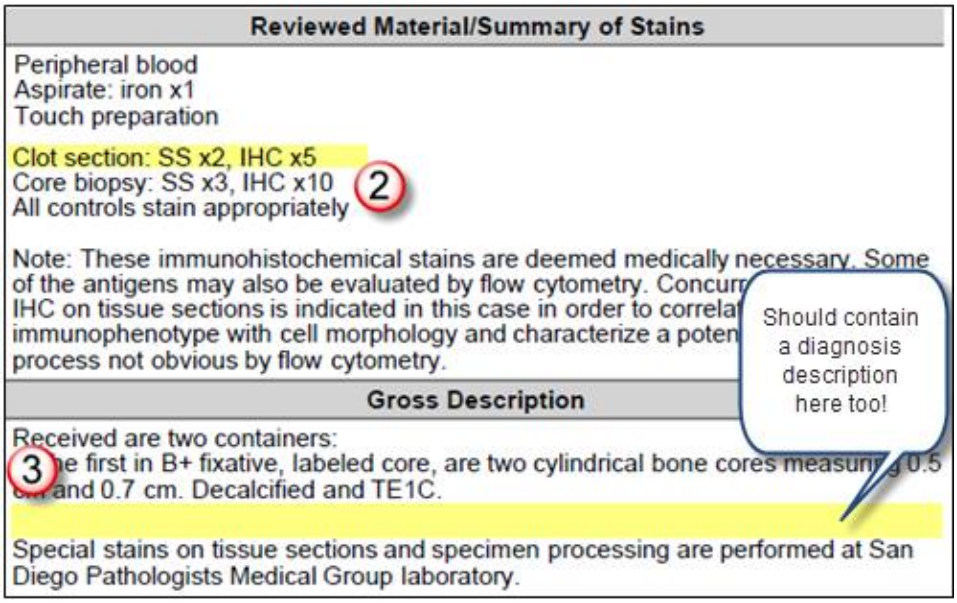
Codes Used on Pathology Reports		
88313	Group II, all other (e.g. iron, trichrome), except immunocytochemistry and immunoperoxidase stains, including interpretation and report, each. Special Stains = (Iron, PAS, Reticulin)	
88313-26	Group II, all other (e.g. iron, trichrome), except immunocytochemistry and immunoperoxidase stains, including interpretation and report, each. Special Stains = (Iron, PAS, Reticulin)	We use this code when reading results. Use this modifier for the professional component of services.
88321	Consultation and report on referred slides prepared elsewhere. For more information, see page 30.	One of three codes used when a 2nd opinion is sought, depending upon what kind of second opinion was done.
88323	Consultation and report on referred material requiring preparation of slides. For more information, see page 30.	One of three codes used when a 2nd opinion is sought, depending upon what kind of second opinion was done.
88325	Consultation, comprehensive, with review of records and specimens, with report on referred material.	One of three codes used when a 2nd opinion is sought, depending upon what kind of second opinion was done.
88342	Immunohistochemistry (IHC) (including tissue immunoperoxidase), each antibody – 90% of the time these are performed on core and clot specimens.	Examples include CD3, PAX5, or CD20

Things to Notice When Coding Pathology Reports

The following are examples of various types of pathology reports that contain different coding scenarios. You should always review the entire report before you begin to code. Notice that in the example below, there should be information in the report that is missing.



In this example, we're showing a bone marrow aspirate, touch prep and core biopsy but the diagnosis description in missing. The stains are discussed in the Reviewed Materials section (below) but the diagnosis description is also missing in the Gross Description area of the report.



In the report shown above, notice the following discrepancies:

1. There is a missing diagnosis description for the clot. We know there is a clot because it is described in the Reviewed Material/Summary of Stains section.
2. The Reviewed Material/Summary of Stains lists that the clot has special stains applied but that the stains are not listed in the Gross Description part of the report.
3. There is a discrepancy between what shows in the Reviewed Material/Summary of Stains section and the Diagnosis. The Diagnosis section on top and the gross description are both missing the clot diagnosis description.

When Missing Diagnosis Descriptions

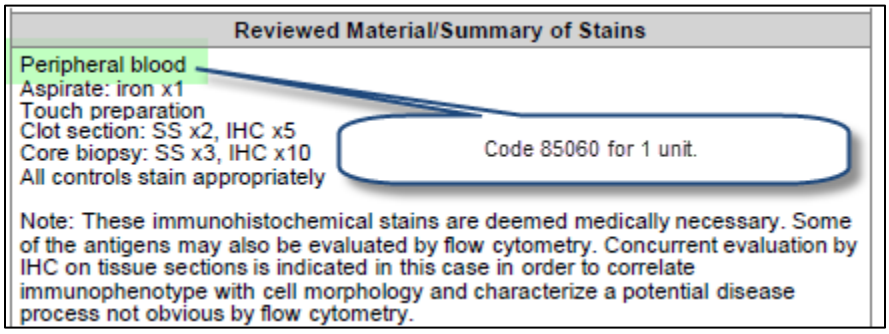
You should review the report in its entirety before taking the information in the Reviewed Material/Summary of Stains as the valid section to use in coding. After noticing that items are missing, code the report and bill it appropriately. We don't want to hold up the billing process so we will deal with any issues that come up if the item(s) are denied.

Coding the Pathology Reports

Scan the report each time and then after each pass you should be able to code for the following:

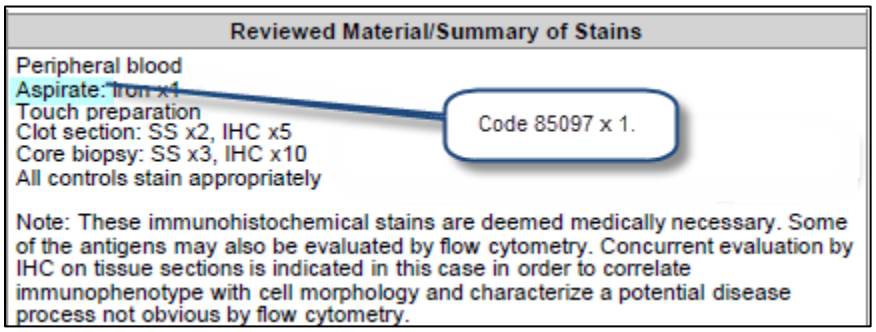
Peripheral Blood

Look for peripheral blood and code 1 unit of 85060 if it is listed.



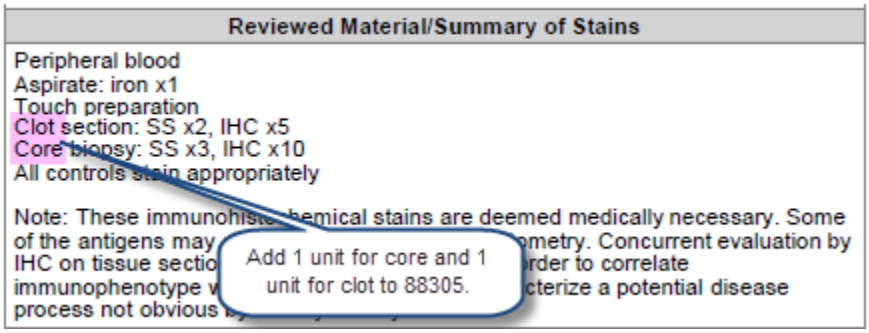
Aspirates

Look for aspirates and code 1 unit of 85097 if you find it listed. If you were coding for a bilateral you would add 2 units.



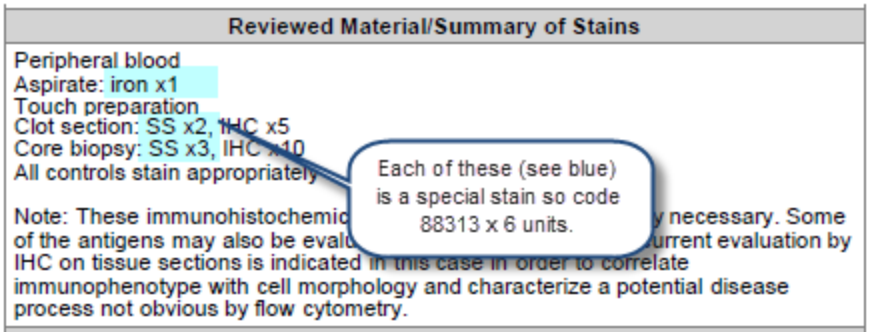
Core and Clot

Review the Summary of Stains for Core and Clot. If you only see clot you would add 1 unit. If you only see core, add 1 unit. If both are listed you would combine them to add 2 units of 88305.



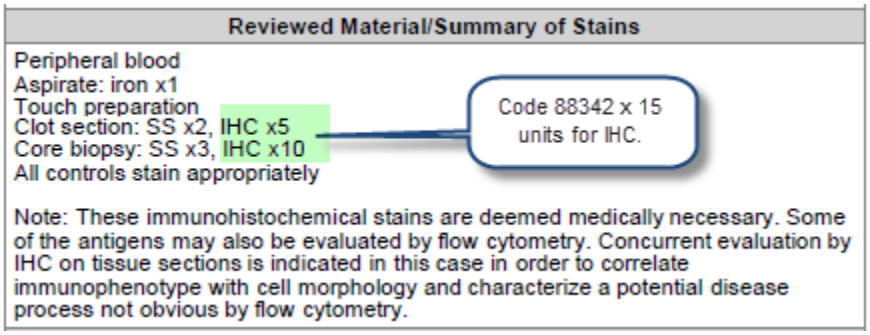
Special Stains

Special stains include iron as well as those listed under "SS" so you would count all special stains listed regardless of whether they were done on the core or clot and code 88313 with the total number of stains run. In this instance, it would be 6 units of 88313.



Immunohistochemistry (IHC)

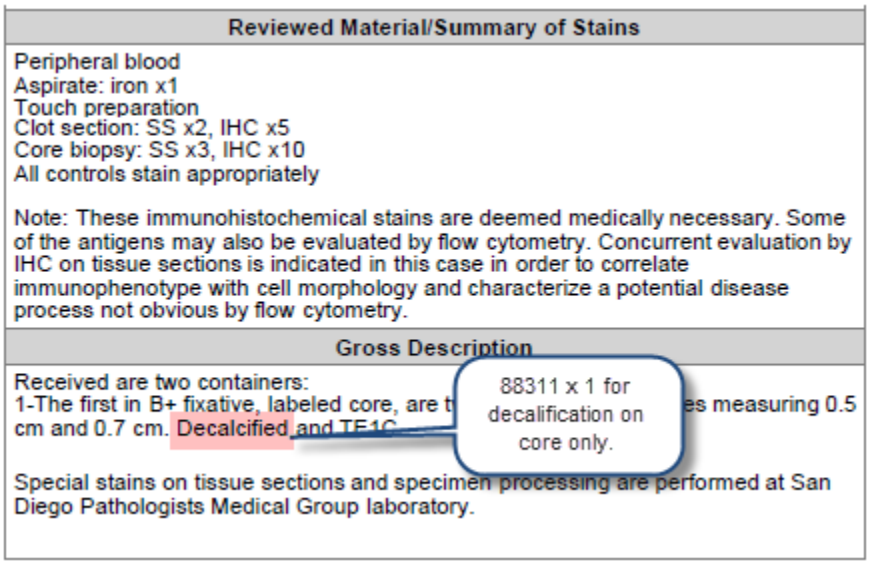
IHC testing is listed separately for core and for clot. Combine them together and code the total number of units for 88342.



Decalcification

You will need to review the gross description or body of the report to find whether the submitted core sample was decalcified. If you find the term "Decalcified" in the body of the report, code 88311 for 1 unit only.

Note: If you have a core you will usually have a decalcification for it.



Now let's look at some other report examples.

Report 1 – Peripheral Blood

No painful core extraction done on this report. It was all testing done with blood.

Specimen:	Peripheral Blood		Bayamon, PR 00959
Collected:	3/28/2012	**Telephone #:**	(787) 269-4740
Received:	3/29/2012 10:25 AM	**Block Collected:**	
Reported:	4/2/2012 7:28 PM	**Block Received:**	

Hematopathology

Gross Description
Received are three peripheral blood tubes, from which smears are prepared.

Clinical Data
35-year-old female with fatigue, scattered ecchymoses, and no history of hematologic abnormalities. Rule out leukemia, especially hairy cell leukemia. Accompanying CBC report, dated 03/21/12, indicates WBC 6.07 K/uL, RBC 4.45 M/uL, Hgb 12.7 g/dL, HCT 38.3%, MCV 86.1 fL, MCH 28.5 pg, MCHC 33.2 g/dL, RDW 14.4%, platelets 284 K/uL with a differential count of neutrophils 48.3%, lymphocytes 38.9%, monocytes 7.9%, eosinophils 4.1%, basophils 0.8%, nRBC 0.0/100 WBC.

Diagnosis
Peripheral blood: (1)
- No good morphologic or immunophenotypic evidence of a lymphoproliferative disorder (see Discussion)

PB: Erythrocytes
An anemia is not present. Red cells are normocytic and normochromic by indices. Some anisopoikilocytosis is seen, with burr cells, elliptocytes, and schistocytes identified. Polychromasia is not increased.

PB: Leukocytes
Leukocytes are normal in number and for the most part appearance, but severe degeneration is seen.

PB: Platelets
Platelets are normal in number and appearance.

1. Notice that this report is for a peripheral blood specimen. We use CPT code 85060 with 1 unit for this type of report.

Example Coding Answers

CPT Code	Number of Units
85060	**1**

Report 2 – Bone Marrow Aspirate

Here is an example of a Bone Marrow Aspirate report.

Reviewed Material/Summary of Stains
Bone marrow aspirate. (1)

Gross Description
Note: Specimen identification has been verified by Maria Perez Grau, MD, and documentation has been received.

Received are one sodium heparin tube and one EDTA tube containing bone marrow, from which Wright-stained smears are prepared. An air-dried smear is also received.

Clinical Data
45-year-old male. Rule out lymphoma. Accompanying CBC report, dated 3/24/12, indicates WBC 4.4 K/uL, RBC 5.33 M/uL, Hgb 15.0 g/dL, HCT 44.0%, MCV 83 fL, MCH 28.1 pg, MCHC 34.0 g/dL, RDW 12.7%, platelets 100 K/uL with a differential count of neutrophils 57.9%, lymphocytes 25.5%, monocytes 12.8%, eosinophils 3.2%, basophils 0.6%.

Diagnosis
Bone marrow aspirate:
- No definitive morphologic or flow cytometric evidence of lymphoma (see discussion).

1. Because this report is for a bone marrow aspirate, we would code this as 1 unit of 85097.

   Note: If this test was a bilateral and if the report specified right and left, we would code it with 2 units of 85097 instead of 1.

Example Coding Answers

CPT Code	Number of Units
85097	**1**

Report 3 – Stains

Now let's look at a more complex report. Review the portion under "Reviewed Material/Summary of Stains" area to determine how you will code this report. Remember that in addition to reviewing this section of the report you should always do a 1:1 comparison using the text in the rest of the report.

Reported: 3/30/2012 6:36 PM **Block Received:**

Hematopathology

Reviewed Material/Summary of Stains
Peripheral blood
Aspirate: Iron x1
Touch prep
Core: SS x3, IHC x5

This report is telling you that you have:

1. Peripheral blood should be coded at 1 unit of 85060.
2. An aspirate which is coded as 1 unit of 85097.
3. There is touch prep (88161) performed on the stains but we don't code for that so leave that code set to N/A.
4. We received a core, so you will add 1 unit of 88305.
5. Notice that there is no clot listed in this report.
6. Next we will code the special stains 88313 x4 which is the SS x3 and then add 1 more unit for the iron on the aspirate.
7. We have Immunohistochemical stains (IHC) x5 for code 88342.
8. Scan down the report to the section called "Gross Description" to determine if the specimen was decalcified. When a specimen is decalcified, we add 1 unit to code 88311.

Gross Description
Received in one B+ fixative container, labeled core, is a cylindrical bone core measuring 0.5 cm. Decalcified and TE1C. JB/gc

Special stains on tissue sections and specimen processing are performed at San Diego Pathologists Medical Group laboratory.

Example Coding Answers

CPT Code	Units
85060	**1 unit**
85097	**1 unit**
88305	**1 unit**
88311	**1 unit**
88313	**4 units**
88342	**5 units**

Simple Coding Tips

Here are some tips for accurately coding pathology reports:

1. Remember to do a pass for each type of coding:
    a. Peripheral blood
    b. Aspirates
    c. Core and clot
    d. Special stains (includes iron)
    e. IHC
    f. Decalcification (if there is no core you can skip this pass)
2. Review the entire report and then review the verbiage against the "Reviewed Material/Summary of Stains" to do a 1:1 comparison.
3. What is the specimen submitted?
    a. Peripheral blood = 1 unit 85060
    b. Core **OR** clot = 1 unit 88305
    c. Core **AND** clot = 2 units of 88305
4. Is there an aspirate? Aspirate smears = 1 unit 85097.
5. Check for stains. For example, if your report shows the Core SS x3, it means that you would use the 3 as the total units for 88313.
6. Is Iron listed on the aspirate? If your report shows that in addition to the Core SS x3 for special stains there is an iron test done on an aspirate (shows on report as aspirate Iron x1), then remember to add an additional unit to 88313.
7. Is there any IHC work done? Use the number of IHC as the total units for 88342.
8. Is the specimen "decalcified"? If the core is decalcified code 1 unit of 88311.

You Try It! (Pathology Example 1)

Check out this report and see if you can code it accurately with the information you just learned.

Hematopathology

Gross Description
Received are one EDTA and two sodium heparin tubes containing blood, from which Wright-stained smears are prepared.

Clinical Data
80-year-old female with a history of B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma, lymphadenopathy and secondary malignant neoplasm of the lung. Whole blood submitted for evaluation.

Diagnosis
Peripheral Blood:
- Lymphocytosis and thrombocytosis.
- Please see discussion.

PB: Erythrocytes
No significant abnormalities are detected.

PB: Leukocytes
Numbers appear normal, however, there is a mild lymphocytosis. Lymphocytes are predominantly small with coarsely clumped chromatin and scant cytoplasm. Large, immature lymphocytes or prolymphocytes are not increased. Neutrophils are normal in numbers and show normal granulation. No significant left shift is present. Eosinophils and basophils are not increased and show normal granulation. Monocytes appear normal in number and are mature in appearance.

1. What is the specimen type?
2. How many stains are listed?
3. Is there a core?
4. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
85060	
85097	
88304	
88305	
88307	
88309	
88311	
88312	
88313	
88321	
88323	
88325	
88342	

Note: Find the answers beginning on page 36 to check your work.

You Try It! (Pathology Example 2)

Try coding this report.

Hematopathology

Reviewed Material/Summary of Stains
Aspirate: Iron x1
Core: SSx3, IHC x6

Controls stain appropriately.

Note: These immunohistochemical stains are deemed medically necessary. Some of the antigens may also be evaluated by flow cytometry. Concurrent evaluation by IHC on tissue sections is indicated in this case in order to correlate immunophenotype with cell morphology and characterize a potential disease process not obvious by flow cytometry.

Gross Description
Received in one B+ fixative container, labeled core, are two cylindrical bone cores measuring 0.3 cm and 0.5 cm. Decalcified and TE1C. EV/gc

Special stains on tissue sections and specimen processing are performed at San Diego Pathologists Medical Group laboratory.

1. What is the specimen type?
2. How many stains are listed?
3. Is there a core?
4. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
85060	
85097	
88304	
88305	
88307	
88309	
88311	
88312	
88313	
88321	
88323	
88325	
88342	

Note: Find the answers beginning on page 36 to check your work.

You Try It! (Pathology Example 3)

How are you doing? Keep trying to get your accuracy rate up by coding this report:

Hematopathology

Reviewed Material/Summary of Stains
Bone marrow aspirate: Paucicellular with preservation artifact.
Touch imprint: Preparation artifact is present.
Core biopsy: Adequate. SS x3, IHC x9
All controls stain appropriately.

Note: These immunohistochemical stains are deemed medically necessary. Some of the antigens may also be evaluated by flow cytometry. Concurrent evaluation by IHC on tissue sections is indicated in this case in order to correlate immunophenotype with cell morphology and determine extent of involvement, spatial pattern, and focality of potential disease distribution.

Gross Description
Received in one B+ fixative container, not labeled, is a cylindrical bone core measuring 1.8 cm. Decalcified and TE1C. EV/gc

Special stains on tissue sections and specimen processing are performed at San Diego Pathologists Medical Group laboratory.

1. What is the specimen type?
2. How many stains are listed?
3. Is there a core?
4. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
85060	
85097	
88304	
88305	
88307	
88309	
88311	
88312	
88313	
88321	
88323	
88325	
88342	

Note: Find the answers beginning on page 36 to check your work.

You Try It! (Pathology Example 4)

You're doing a good job! Keep coding!

Hematopathology

Reviewed Material/Summary of Stains
Peripheral blood.
Bone marrow aspirate: Iron x1.

All controls stain appropriately.

Gross Description
Received are one sodium heparin tube and one EDTA tube containing bone marrow, and one EDTA tube containing peripheral blood, from which Wright-stained smears are prepared.

Clinical Data
66-year-old male with chronic thrombocytopenia, cirrhosis and splenomegaly. Bone marrow submitted for evaluation. Accompanying CBC report, dated 1/4/12, indicates WBC 3.0 K/uL, RBC 2.73 M/uL, Hgb 10.7 g/dL, HCT 29.6%, MCV 109 fL, MCH 39.3 pg, MCHC 36.2 g/dL, RDW 13.9%, platelets 69 K/uL with a differential count of granulocytes 49.8%, lymphocytes 39.6%, monocytes 10.6%.

1. What is the specimen type?
2. How many stains are listed?
3. Is there a core?
4. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
85060	
85097	
88304	
88305	
88307	
88309	
88311	
88312	
88313	
88321	
88323	
88325	
88342	

Note: Find the answers beginning on page 36 to check your work.

You Try It! (Pathology Example 5)

Here's the last report for you to code.

Hematopathology

Reviewed Material/Summary of Stains
Peripheral blood: Received.
Aspirate: Received. Iron x1
Touch Prep: Received.
Clot: Received, consisting of blood with minute particles.
Core: Received. SS x4, IHC x5

Controls stain appropriately.

Note: These immunohistochemical stains are deemed medically necessary. Some of the antigens may also be evaluated by flow cytometry. Concurrent evaluation by IHC on tissue sections is indicated in this case in order to correlate immunophenotype with cell morphology and determine extent of involvement, spatial pattern, and focality of potential disease distribution.

Gross Description
Received are two containers:
1-The first in B+ fixative, labeled core, is a cylindrical bone core measuring 1.1 cm. Decalcified and TE1C.
2-The second in B+ fixative, labeled clot, is a blood clot aggregate measuring 2.5 cm. RS1C. EV/gc

Special stains on tissue sections and specimen processing are performed at San Diego Pathologists Medical Group laboratory.

1. What is the specimen type?
2. How many stains are listed?
3. Is there a core?
4. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
85060	
85097	
88304	
88305	
88307	
88309	
88311	
88312	
88313	
88321	
88323	
88325	
88342	

Note: Find the answers beginning on page 36 to check your work.

Additional Pathology Coding – Consultations

Consultations are another type of Pathology report. Coding for these pathology reports is based on terminology that you can find in the coding application if you open up the PA report, or by opening up the PDF associated with the report. Here are examples of what you are looking for in these PA reports:

- "Outside H&E stains are received." Code 1 unit of 88321 in this instance.

Consultation

Gross Description
Received is one white block labeled 12-8333. SK/gc. Four outside stained biopsy slides are received, including outside H&E stain and IHCs.

- "Outside H&E stains are not received." Code 1 unit of 88323.

Consultation

Gross Description
Received are 9 white blocks labeled S04-6498-A1-5/B1-4. Outside H&E stains are not received.

- "Outside H&E stains are received, however…" Code 1 unit of 88323.

Gross Description
Received are two white blocks labeled 335-12 5 and 9. SK/gc. Outside H&E stains are received; however, additional H&E-stained slides provide further information.

Consultations and IHC Stains

In addition to the H&E stains, reports can also include IHC stains. Scan the report to find IHC referenced and look for the number of units.

Consultation

Gross Description
Received is one blue block labeled SE12-333C. SK/gc. Outside H&E stains are not received.

H&E and immunohistochemical stains on tissue sections are performed at San Diego Pathologists Medical Group laboratory.

Summary of Stains: IHC x13 (CD138, kappa, lambda, CD20, CD3, AE1/AE3, keratin 5/6, p63, CD68, CD31, CD34, TdT, MPO)

When you see this type of information, you will use CPT code 88342 x the number of units that were stained. In the example below, you would code 88342x13.

Consultations and Other Stains

You may also find additional stains reported on a consultation. Use the table starting on page 17 to determine how to code additional stains. Here are coding instructions on coding a Consultation report containing additional stains.

Peripheral Blood

Peripheral blood is not coded on a Consultation.

Aspirates

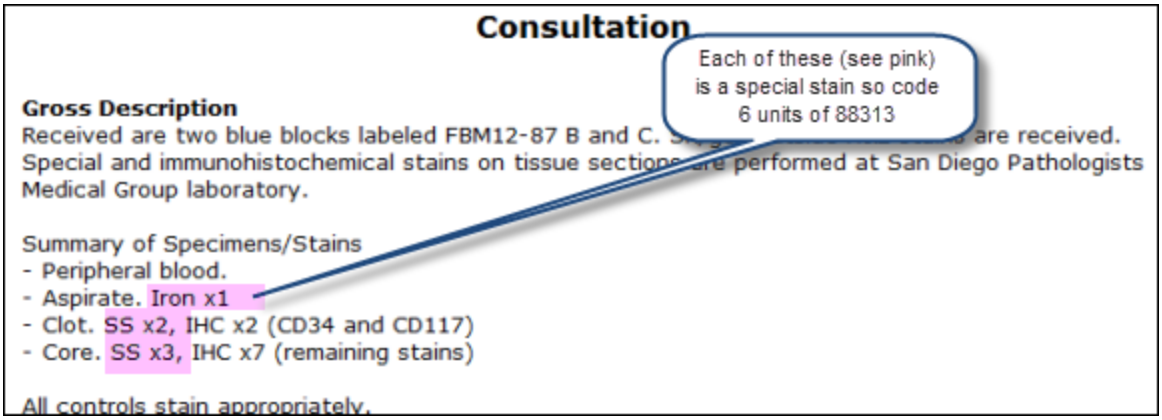
You will not code for aspirates in a consultation.

Core and Clot

You will not code for core and clot on a consultation.

Special Stains

Remember that iron is considered a special stain as well as those with a preface of "SS". In this example, you would have 6 units of special stains.



You Try It! (Pathology Example 6)

Try coding this Consultation Pathology report.

Gross Description
Received is one blue block labeled 12-7405. SK/gc. Outside H&E stains are not received.

H&E and immunohistochemical stains on tissue sections are performed at San Diego Pathologists Medical Group laboratory.

Summary of stains: IHC x12

1. Are there any H&E stains received?
2. How about any additional stains?
3. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
88321	
88323	
88342	

Note: Find the answers beginning on page 36 to check your work.

You Try It! (Pathology Example 7)

Try coding this Consultation Pathology report.

Consultation

Gross Description
Received are two blue blocks labeled FBM12-82 B and C. SK/gc. Outside H&E stains are received.

Special and immunohistochemical stains on tissue sections are performed at San Diego Pathologists Medical Group laboratory.

Summary of Specimens/Stains:
- Aspirate
- Clot: SS x2 (PAS, iron) IHC x7 (CD3,CD20, CD34, CD42b, CD117, MPO, glycophorin)
- Core: SS x3 (PAS, iron, reticulin), IHC x2 (CD34, CD117)

1. Are there any H&E stains received?
2. How about any additional stains?
3. How would you code this report? Enter your coding work below:

CPT Code	Number of Units
88313	
88321	
88342	

Note: Find the answers beginning on page 36 to check your work.

Answers - FLOW Cytometry

You Try It! (Example 1)

CPT Code	Number of Units
88184	1
88185	23
88187	
88188	
88189	1

You Try It! (Example 2)

CPT Code	Number of Units
88184	1
88185	26
88187	
88188	
88189	1

You Try It! (Example 3)

CPT Code	Number of Units
88184	1
88185	31
88187	
88188	
88189	1

Answers - Cytogenetics

You Try It! (Example 1)

CPT Code	Number of Units
88237	1
88264	1
88280	3
88291	1
88367	
88368	7

You Try It! (Example 2)

CPT Code	Number of Units
88237	1
88264	Because there are no Metaphases Karyotyped you would not have a value in this field.
88280	Because there are no Metaphases Karyotyped you would not have a value in this field.
88291	Since there is no value for 88280, there is no value to code for 88291.
88367	
88368	8

You Try It! (Example 3)

CPT Code	Number of Units
88112-TC	1 – Because this is an intelligent FISH report.
88230	
88237	1
88264	1
88280	2
88291	1
88367	
88368	13

Answers – Pathology

You Try It! (Pathology Example 1)

CPT Code	Number of Units
85060	1 – This is a peripheral blood draw where smears were prepared and no other work was done so no other units are coded.
85097	
88304	
88305	
88307	
88309	
88311	
88312	
88313	
88321	
88323	
88325	
88342	

You Try It! (Pathology Example 2)

CPT Code	Number of Units
85060	
85097	1
88304	
88305	1
88307	
88309	
88311	1
88312	
88313	4 (Because there is iron in the aspirate you add 1 to the number of SS stains.)
88321	
88323	
88325	
88342	6

You Try It! (Pathology Example 3)

CPT Code	Number of Units
85060	
85097	1
88304	
88305	1
88307	
88309	
88311	1
88312	
88313	3 (No iron in aspirate)
88321	
88323	
88325	
88342	9

You Try It! (Pathology Example 4)

CPT Code	Number of Units
85060	1 (Peripheral blood)
85097	1 (Aspirate)
88304	
88305	
88307	
88309	
88311	
88312	
88313	1 (Iron in the aspirate)
88321	
88323	
88325	
88342	

You Try It! (Pathology Example 5)

CPT Code	Number of Units
85060	1 (Peripheral blood)
85097	1 (Aspirate)
88304	
88305	2 (1 each for core and clot)
88307	
88309	
88311	1 (Decalcified on core)
88312	
88313	5 (SSx4 plus 1 for iron in aspirate)
88321	
88323	
88325	
88342	5

You Try It! (Pathology Example 6)

CPT Code	Number of Units
88321	
88323	1 – H&E stains were not received.
88342	12 units of IHC

You Try It! (Pathology Example 7)

CPT Code	Number of Units
88321	5
88323	1 – H&E stains were not received.
88342	9 units of IHC

Code Cheat Sheets

Note: The following test codes are subject to change.

In House Tests

CTC	JAK	MPL	PCR
88313 x 1	83891 x 1	83891 x 1	83891 x 1
88361 x 3	83892 x 1	83892 x 1	83896 x 2
	83896 x 5	83896 x 8	83900 x 1
	83898 x 1	83898 x 1	83901 x 2
	83903 x 1	83903 x 2	83902 x 1
	83908 x 2	83908 x 3	83912 x 1
	83912 x 1	83912 x 1	(83909 x 1-if detects)
IGVH	**T CELL**	**B CELL**	
83891 x 1	83891 x 1	83891 x 1	
83900 x 1	83900 x 1	83898 x 2	
83901 x 5	83901 x 4	83900 x 1	
83902 x 1	83909 x 3	83901 x 12	
83904 x 1	83912 x 1	83909 x 5	
83909 x 2		83912 x 1	
83912 x 1			
FLOW	**PATHOLOGY**	**CYTO**	
88184	85060	88237	
88185	85097	88264	
88187/88189	88305	88280	
	88311	88291	
	88313	88367	
	88342	88368	
		88112 TC	

NexCourse Tests

Note: The following test codes are subject to change.

CTC	DPD ONLY-PB	UGT1A1 ONLY-PB	
88313 x 1	83891 x 1	83891 x 1	
88361 x 3	83892 x 1	83892 x 1	
	83896 x 5	83896 x 12	
	83898 x 1	83903 x 4	
	83903 x 1	83908 x 4	
	83908 x 2	83912-26 x 1	
	83912-26 x 1		
	-ADD 83907 x 1 if block	-ADD 83907 x 1 if block	
KRAS ONLY	**BRAF ONLY**	**EGFR ONLY**	**MSI ONLY**
83891 x 1	83891 x 1	83891 x 1	83891 x 1 (if PB then x 1)
83896 x 8	83892 x 1	83896 x 6	83891 x 1 (-91)
83898 x 8	83896 x 5	83898 x 4	83900 x 1
83907 x 1	83898 x 1	83900 x 1	83901 x 8
83912-26 x 1	83903 x 1	83901 x 23	83907 x 2 (if PB then x1)
88381 x 1	83907 x 1	83907 x 1	83909 x 2
	83908 x 2	83912-26 x 1	83912-26 x 1
	83912-26 x 1	88381 x 1	88381 x 1
	88381 x 1		
ERCC1 ONLY-CRC	**TS ONLY-CRC**		**BRAF COBAS V600**
83892 x 1	83892 x 1		83891 x1
83896 x 29	83896 x 29		83896 x2
83907 x 1	83907 x 1		83898 x1
83908 x 3	83908 x 3		83907 x1
83912-26 x 1	83912-26 x 1		83912-26 x1
88381 x 1	88381 x 1		88381 x1
ERCC1 ONLY-NSCL	**TS ONLY-NSCL**	**RRM1 ONLY-NSCL**	
83892 x 1	83892 x 1	83892 x 1	
83896 x 38	83896 x 38	83896 x 38	
83907 x 1	83907 x 1	83907 x 1	
83908 x 4	83908 x 4	83908 x 4	
83912-26 x 1	83912-26 x 1	83912-26 x 1	
88381 x 1	88381 x 1	88381 x 1	
EGFR AMP-IN HOUSE	**EML4/ALK-IN HOUSE**	**AQUA-IN HOUSE**	
88368 x 2	88368 x 2 OR x 4	88313 x1	
		88361 x2	
		OR	
		88313 x2	
		88361 x4	

Send Out Tests

Note: The following test codes are subject to change.

ALPHA THALASSEMIA GENE DELETIONS-ARUP	CYP2D6-Cytochrome P450 2D6 Mutation-Pharma Dx	T CELL – ARUP	Hemochromatosis Gene Mutation Analysis-ARUP
83891 x 1	83891 x 1	83891 x 1	83891 x 1
83894 x 1	83892 x 2	83896 x 3	83896 x 2
83900 x 1	83900 x 2	83898 x 4	83900 x 1
83901 x 8	83901 x 3	83909 x 4	83912 x 1
83912 x 1	83909 x 1	83912 x 1	
	83914 x 19		
	83912 x 1		
FLT3/NPM1-lab PMM	**CEBPA-Blood Centers of WI**	**HER2-IHC-Pheno**	**cKIT-ARUP**
83891 x 1	83891 x 1	88360 x 1	83891 x 1
83892 x 1	83892 x 4		83894 x 1
83898 x 3	83898 x 4	**ALK/HER2 Copy Num FISH**	83898 x 2
83909 x 3	83900 x 1	88368 x 2	83912 x 1
83912 x 1	83901 x 1		83914 x 1
	83904 x 4	**PARVOVIRUS B19-PHENO**	
	83909 x 3	88342 x1	
	83912 x 1		
JAK2 Exons 12 & 13-Quest	**PML/RARA-ARUP**	**BCR-ABL1 Domain Mutation- ARUP**	**CBC-Auto-Tricity**
83891 x 1	83891 x 1	83891 x 1	85025 x 1
83898 x 1	83896 x 3	83892 x 1	
83902 x 1	83898 x 3	83894 x 1	**CBC-Manual-Tricity**
83904 x 2	83902 x 1	83898 x 4	85007 x 1
83912 x 1	83912 x1	83902 x 1	
		83904 x 1	**LAP SCORE-ARUP**
		83909 x 1	85540 x1
		83912 x 1	
EBER-ARUP/Pheno	**FACTOR V LEIDEN-ARUP**	**PROTHROMBIN MUTATION-ARUP**	**FIP1L1-PDGFRA-MD ANDERSON**
88365 x 1	83891 x 1	83891 x 1	83891 x 1
	83896 x 1	83896 x 1	83898 x 1
	83898 x 1	83898 x 1	83902 x 1
	83912 x 1	83912 x 1	83909 x 1
			83912 x 1

MPL W515 & MPL S505-QUEST	BRAF Mutation by COBAS 4800-Carolina Medical Center	JAK2 Exon 12 Mutation-ARUP	
83891 x 1	83891 x1	83891 x1	
83898 x 1	83896 x2	83894 x2	
83902 x 1	83898 x1	83898 x2	
83904 x 2	83907 x1	83912 x1	
83912 x 1	83912 x1		
	88381 x1		

Resources

Complete List of Tests	For a complete list of tests, CPT Codes, and specimen requirements, see: https://clientlounge.genoptix.com/ClientLounge/images/2010_DOS/10_10_Testing.pdf Note: You must be able to log into Compass to access this link.

Glossary

Term	*Definition*
Bone Marrow	Bone marrow is a soft, spongy material found inside the bones of your body. The most important components of bone marrow are cells that continuously mature and develop into blood cells. These immature cells are called "hematopoietic stem cells" or blood forming stem cells. These cells mature into the three types of blood cells: • Red blood cells (RBCs) that carry oxygen to different parts of the body. • White blood cells (WBCs) that protect the body from infections. • Platelets that helps the blood to clot.
Cytogenetics Testing	Used to detect chromosomal abnormalities associated with blood cancers. Cytogenetic analysis of a patient's karyotype helps in the diagnosis and prognosis of numerous diseases. Genoptix hematopathologists correlate cytogenetic results with morphology, flow cytometry, FISH, and molecular tests for a patient-specific diagnosis.
FISH	Used to detect additional chromosomal abnormalities associated with blood cancers through FISH (fluorescence in situ hybridization), which is also known as molecular cytogenetics.
FLOW Cytometry	A technique for counting and examining microscopic particles, such as cells and chromosomes, by suspending them in a stream of fluid and passing them by an electronic detection apparatus. It allows simultaneous multi-parametric analysis of the physical and/or chemical characteristics of up to thousands of particles per second. Flow cytometry is routinely used in the diagnosis of health disorders, especially blood cancers, but has many other applications in both research and clinical practice. A common variation is to physically sort particles based on their properties, so as to purify populations of interest.
GBA	Genoptix Billing Application – this is Genoptix's customized Billing Application.
Hematopathology	A branch of pathology which studies diseases of hematopoietic cells (see below). In the United States, Hematopathology is a board certified subspecialty (American Board of Pathology) practiced by those physicians who have completed general pathology residency (anatomic, clinical, or combined) and additional fellowship training in hematology.
PAS	Periodic Acid Schiff test. This is a special stain.
TE1C	This is an acronym for Totally Missing 1 Canister.

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