SPECIALTY LABORATORIES
2211 Michigan Avenue
Santa Monica, CA 90404 800 • 421 • 4449

June - July, 2004

Dear Colleague:

In this letter, we are pleased to introduce several new PCR assays for respiratory viruses, including Respiratory Syncytial virus, Influenza A & B viruses and Parainfluenza 1, 2, 3 viruses. These tests are much faster and more sensitive than classical viral culture for detection of respiratory viruses. In Oncology, we are pleased to introduce important new tests for the semiquantitative determination of EGFR and HER-2/*neu* status in paraffin-embedded tissue using EGFR pharmDx™ and HercepTest® respectively. These tests aid in determining eligibility for targeted therapies such as Erubitux® (Cetuximab) and Herceptin® (Trastuzumab) and are also intended to serve the pharmacogenomics research market whenever an FDA-approved kit methodology is required for clinical trials. For prostate cancer detection and monitoring we are also introducing the serum tumor marker Complexed PSA, which has similar sensitivity, but enhanced specificity compared to conventional PSA testing. Finally we are introducing additional testing to assist with the management of lipid metabolism and insulin resistance in diabetic patients (Free Fatty Acids) and the work-up of patients with suspected pernicious anemia. The Pernicious Anemia EvaluatR™ adds gastrin to the Vitamin B 12 testing algorithm.

We have added a number of new pediatric reference ranges for our endocrine testing – specifically, Total T3, Total T4, Free T4, Hydroxytryptamine (Serotonin), TSH and Cortisol. We have also determined that the pediatric reference ranges are the same as the adult ranges for antibodies to thyroglobulin and thyroid peroxidase. We are continuing to ascertain pediatric reference ranges and to provide testing on minimal sample volumes to aid those who care for pediatric patients.

All Allergy MIX testing provided by *Specialty* is now performed on the Pharmacia UniCAP 1000 system that provides semi quantitative IgE results therefore they should all be coded as CPT 86003.

Earlier this year we introduced a new CPT code (88361) defined as semi-quantitative morphometric analysis for a number of our immunohistochemistry tests that include quantitative analysis. We have since learned that Medicare, subsequent to later CCI edits of the original CPT code recommendations, would pay 88361 only for computer analysis and not manual methods. Because we are not able to bill Medicare one code (88342) and all other payers another code (88361), we have decided to bill all payers the 88342. However, 88361 is still considered a legitimate code for all other payers for manual or computer analysis of semiquantitative IHC stains; thus, we leave it up to our clients to determine which code they will bill to non-Medicare payers.

For additional information on testing, please contact Client Services at 800-421-4449.

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Vice President and Co-Director of Laboratory

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New from *Specialty*

Effective Tuesday, July 20, 2004 or as noted

1835 EGFR pharmDx™ (Epidermal Growth Factor Receptor)

Component	Method	Reference Range	Units
EGFR	IHC	0, 1+, 2+, 3+	
EGFR Interpretation	IHC	0 = Negative 1+, 2+, 3+ = Positive	

Specimen/Stability 5.0 (1.5) mL Formalin-fixed, Paraffin-embedded Tissue
Ambient/Refrigerated – 30 year(s), Frozen NOT Acceptable

Collection Instructions Ship by overnight courier to *Specialty*. Shipping on cold pack is recommended during the warm summer months. Frozen specimens are NOT acceptable.

Clinical Utility Used to identify Epidermal Growth Factor Receptor (EGFR) expression in routinely fixed (paraffin-embedded) normal and neoplastic tissues. EGFR pharmDx™ is a semi-quantitative method which is FDA-approved as an aid in identifying colorectal cancer patients eligible for treatment with Erbitux® (Cetuximab). Aberrant strong expression may also be identified in other epithelial tumors such as bladder cancer, renal cell (kidney) cancer, non-small cell lung cancer and squamous cell cancers of the head and neck, as well as in brain tumors such as glioblastoma multiforme.

Schedule Monday - Sunday

Turnaround Time 1-3 days

CPT Code 88342

Notes Diagnostic code required for third party reimbursement. Please send copy of pathology report and other applicable test results. EGFR pharmDx™ can be ordered individually or in combination with *Specialty's* other IHC and FISH assays for paraffin-embedded tissue. See Imunohistochemistry Test Requisition Form for full menu of other IHC stains or contact *Specialty* for additional information.

3347 Fatty Acids, Free (Non-Esterified)

Component	Method	Reference Range	Units
Free Fatty Acids	ENZYMATIC COLORIMETRY	0.07 - 0.80	mEq/L

Specimen/Stability 2.0 (0.5) mL Serum; Aliquot; Frozen – 2 Month(s)

Collection Instructions Patient should fast 12 hours prior to specimen collection. Separate serum from clot as soon as possible and freeze. Any specimen containing heparin is unsuitable for analysis; hence, this test is not suitable for patients on heparin therapy. Lipemic and/or hemolyzed specimens will be rejected.

Clinical Utility Free fatty acids can contribute to insulin resistance and development of Type II diabetes. Free fatty acids are also implicated as an independent risk factor for future heart disease. Free fatty acid elevations can occur in a disorder with elevated levels of lipoactive hormones (epinephrine, norepinephrine, ACTH, thyrotropin, growth hormone, glucagons). In diabetics, insulin deficiency can lead to a shift where the body is preferentially obtaining energy from lipolysis and this process leads to elevated concentrations of free fatty acids. During fasting or starvation, the same process can elevate free fatty acid levels to as much as three times the normal value. Situational stress, such as when a blood sample is drawn, may also cause a rapid increase in plasma fatty acid levels.

Schedule Tuesday – Saturday

Turnaround Time 1-4 days

CPT Code 82725

5847 HercepTest® (HER-2/*neu*)

Component	Method	Reference Range Units
HercepTest® (HER-2/*neu*)	IHC	0, 1+, 2+, 3+
HercepTest® (HER-2/*neu*) Interpretation	IHC	0, 1+ = No overexpression 2+, 3+ = Overexpressed

Specimen/Stability 4.0 (2.0) mL Formalin-fixed, paraffin-embedded tissue
Ambient/Refrigerated – 30 Years

Collection Instructions Ship by overnight courier to *Specialty*. Shipping on cold pack is recommended during the warm weather months. Frozen specimens are NOT acceptable.

Clinical Utility Used to identify Human Epithelial Growth Factor Receptor-2 (HER-2/*neu*) expression in routinely fixed (paraffin-embedded) normal and neoplastic tissues. HercepTest® is a semiquantitative method which is FDA-approved as an aid in identifying breast cancer patients eligible for treatment with Herceptin® (Trastuzumab). Aberrant strong expression may also be identified in subsets of patients with other tumors such as bladder cancer, endometrial (uterine) cancer, ovarian cancer, pancreatic cancer, non-small cell lung cancer, salivary gland cancer and osteosarcoma of bone.

Schedule Monday – Sunday
Turnaround Time 1-3 days
CPT Code 88342
Notes Diagnostic code required for third party reimbursement. Please send copy of pathology report and other applicable test results. HercepTest® can be ordered individually or in combination with *Specialty's* other IHC and FISH assays for paraffin-embedded tissue. See Imunohistochemistry Test Requisition Form for full menu of other IHC stains or contact *Specialty* for additional information.

7517 Influenza A and B RNA DetectR™

Component	Method	Reference Range Units
Influenza A Virus RNA	RT-PCR	Not detected
Influenza B Virus RNA	RT-PCR	Not detected

Specimen/Stability 1 Swab: Nasopharyngeal or Throat; Viral Transport Medium
Refrigerated – 4 Days, Frozen – 2 Months

Alternate Specimen See collection instructions

Collection Instructions Collect nasopharyngeal or throat swab specimen and immediately insert into viral transport media. *or* Collect 1 mL nasopharyngeal wash in a sterile container. *or* Collect 1 mL BAL in sterile container. *or* Collect 1 mLsputum in sterile container. Refrigerate prior to shipping. Ship by overnight courier to arrive within 24 hours. If shipping delayed, freeze specimen. Do not allow specimen to dry out or to thaw (once frozen).

Clinical Utility Detects Influenza A and B RNA in clinical respiratory samples. Assay is a rapid alternative to classical virus culture with enhanced sensitivity.

Schedule Wednesday, Friday, Sunday
Turnaround Time 2-4 days
CPT Code 87798 x 2
Notes Repeated freeze-thaws of specimen must be avoided, since reduced sensitivity may result due to viral RNA degradation.

7519 Parainfluenza 1, 2, 3 Virus RNA DetectR™

Component	Method	Reference Range Units
Parainfluenza 1 Virus RNA	RT-PCR	Not detected
Parainfluenza 2 Virus RNA	RT-PCR	Not detected
Parainfluenza 3 Virus RNA	RT-PCR	Not detected

Specimen/Stability 1 Swab: Nasopharyngeal or Throat; Viral Transport Medium
Refrigerated – 4 Days, Frozen – 2 Months

Alternate Specimen See collection instructions

Collection Instructions Collect nasopharyngeal or throat swab specimen and immediately insert into viral transport media. *or* Collect 1 mL nasopharyngeal wash in a sterile container. *or* Collect 1 mL BAL in sterile container. *or* Collect 1 mLsputum in sterile container. Refrigerate prior to shipping. Ship by overnight courier to arrive within 24 hours. If shipping delayed, freeze specimen. Do not allow specimen to dry out or to thaw (once frozen).

Clinical Utility Detects Parainfluenza 1, 2, and 3 RNA in clinical respiratory samples. Assay is a rapid alternative to classical virus culture with enhanced sensitivity.

Schedule Wednesday, Friday, Sunday
Turnaround Time 2-4 days
CPT Code 87798 x3
Notes Repeated freeze thaws of specimen must be avoided, since reduced sensitivity may result due to viral RNA degradation.

3605 Pernicious Anemia EvaluatR™ with reflex

Component	Method	Reference Range	Units
Vitamin B12	ICMA	211 - 911	pg/mL

Specimen/Stability Two 2.0 (1.0) serum aliquots, Frozen – 2 Month(s)
Collection Instructions Patient should fast 12 hours prior to collection (fasting is required for gastrin testing). Split serum into 2 plastic vials before freezing.
Schedule Sunday - Saturday
Turnaround Time 1-2 days
CPT Code 82607
Notes Reflex parameters for Vitamin B12: If result of Vitamin B12 is <167 pg/mL, reflex to Intrinsic Factor Blocking Autoantibodies [IFBA] (#3196). If result of Vitamin B12 is between 167-301 pg/mL, reflex to Methylmalonic Acid [MMA] (#3496). If result of Vitamin B12 is >301 pg/mL, no further testing done. If result of MMA is <0.4 umol/L, no further testing done. If result of MMA is 0.4 umol/L or greater, reflex to IFBA (#3196). If result of IFBA is negative or indeterminate, reflex to Gastrin (#3176). If any part of test is reflexed, additional CPT code(s) and charges should apply. Also, for each reflex add 3 days to the turn-around time. See Web site or contact client services for additional information related to the Pernicious Anemia EvaluatR™ with reflex algorithm. For related testing, see also Parietal Cell Total Autoantibodies (#1104) and Homocysteine UltraQuant® (#3334).

3549 PSA (Prostate-Specific Antigen), Complexed

Component	Method	Reference Range	Units
Complexed PSA	MEIA	< 3.2	ng/mL

Specimen/Stability 5.0 (2.0) mL Serum; Aliquot
Ambient – 3 Day(s), Refrigerated – 3 Day(s), Frozen – 2 Month(s)
Clinical Utility Complexed PSA (cPSA) levels may be helpful in determining the presence of residual disease and early recurrence after therapy when used in conjunction with other diagnostic indices. Complexed PSA level increases in men with cancer of the prostate, and falls to very low levels after radical prostatectomy. In a 2003 study (Partin et. al. 2003), cPSA was shown to have better specificity than total PSA alone for prostate cancer detection; the authors recommended cPSA as a first screening marker to replace total PSA.
Schedule Sunday - Saturday
Turnaround Time 1-2 days
CPT Code 84152
Notes If used as a screen, the test will not be covered by Medicare and will require an ABN.

7520 Respiratory Syncytial Virus RNA DetectR™

Component	Method	Reference Range	Units
Respiratory Syncytial Virus RNA	RT-PCR	Not detected	

Specimen/Stability 1 Swab: Nasopharyngeal or Throat; Viral Transport VIR
Refrigerated – 4 Day(s), Frozen – 2 Month(s)
Alternate Specimen See Collection Instructions
Collection Instructions Collect nasopharyngeal or throat swab specimen and immediately insert into viral transport media. *or* Collect 1 mL nasopharyngeal wash in a sterile container. *or* Collect 1 mL BAL in sterile container. *or* Collect 1 mLsputum in sterile container. Refrigerate prior to shipping. Ship by overnight courier to arrive within 24 hours. If shipping delayed, freeze specimen. Do not allow specimen to dry out or to thaw (once frozen).
Clinical Utility Detects Respiratory Syncytial Virus RNA in clinical respiratory samples. Assay is a rapid alternative to classical virus culture with enhanced sensitivity.
Schedule Wednesday, Friday, Sunday
Turnaround Time 2-4 days
CPT Code 87798
Notes Repeated freeze-thaws of specimen must be avoided, since reduced sensitivity may result due to viral RNA degradation.

7524 Respiratory Virus DetectR™ (Hexaplex)

Component	Method	Reference Range	Units
Influenza A Virus RNA	RT-PCR	Not detected	
Influenza B Virus RNA	RT-PCR	Not detected	
Parainfluenza 1 Virus RNA	RT-PCR	Not detected	
Parainfluenza 2 Virus RNA	RT-PCR	Not detected	
Parainfluenza 3 Virus RNA	RT-PCR	Not detected	
Respiratory Syncytial Virus RNA	RT-PCR	Not detected	

Specimen/Stability 1 Swab: Nasopharyngeal or Throat; Viral Transport VIR
Refrigerated – 4 Day(s), Frozen – 2 Month(s)

Alternate Specimen See Collection Instructions

Collection Instructions Collect nasopharyngeal or throat swab specimen and immediately insert into viral transport media. *or* Collect 1 mL nasopharyngeal wash in a sterile container. *or* Collect 1 mL BAL in sterile container. *or* Collect 1 mLsputum in sterile container. Refrigerate prior to shipping. Ship by overnight courier to arrive within 24 hours. If shipping delayed, freeze specimen. Do not allow specimen to dry out or to thaw (once frozen).

Clinical Utility Detects Influenza Virus A and B, Parainfluenza Virus, 1, 2, and 3, and Respiratory Syncytial Virus RNA in clinical respiratory samples. Assay is a rapid alternative to classical virus culture with enhanced sensitivity.

Schedule Wednesday, Friday, Sunday

Turnaround Time 2-4 days

CPT Code 87798 x 6

Notes Repeated freeze-thaws of specimen must be avoided, since reduced sensitivity may result due to viral RNA degradation.

Test Changes

Effective Tuesday, July 20, 2004 or as noted

Test Code	Test Name	Specific Change	Also Affected
1531	Complement Functional Activity: C1 Esterase Inhibitor	Name C1 Esterase Inhibitor Functional Reference Range > 67% Normal 41 – 67% Equivocal (new) < 41% Abnormal	
3128	Cortisol	Pediatric Reference Range 0-23 mo am 1.0-34.0 µg/dL pm 1.0-30.0 µg/dL 2-10 yo am 1.0-33.0 µg/dL pm 1.0-24.0 µg/dL 11–18 yo am 1.0-28.0 µg/dL pm 1.0-22.0 µg/dL >18 y am 4.3-22.4 µg/dL pm 3.0-16.7 µg/dL	
7584	Epstein-Barr Virus DNA UltraQuant®	Reference Range Less than 150 copies/mL	7584C Epstein-Barr Virus DNA UltraRapid® CSF 7584P Epstein-Barr Virus DNA UltraQuant® Plasma
8137	Hepatitis B Virus DNA UltraQuant®	Reference Range <500 copies/mL Clinical Utility Quantitates Hepatitis B Virus DNA down to <500 copies/mL for establishing a baseline and to monitor viral load. The most important test for determining the efficacy of antiviral treatment is quantitative HBV DNA monitoring. Although HBeAg is considered an indirect monitor of viral replication, high viral replication may occur without circulating HBeAg, due to mutations of the virus preventing its production.	2479 Hepatitis B Virus MonitR™, Chronic

1140	Histone-DNA Complex (Chromatin) IgG Autoantibodies	Stability Ambient – 7 Day(s), Refrigerated – 14 Day(s), Frozen – 2 Month(s)	
7420	HIV-1 Phenoscript™	New Component Protease Inhibitor: Atazanavir (Reyataz™) Reference Range Technical Cut-Off < 2.5 Clinical Cut-Off < 2.5	9878 HIV-1 RNA UltraQuant® reflex to Phenoscript™
3286	Hydroxytryptamine, 5- (Serotonin)	Pediatric Reference Range 0-14 years old: < 301 ng/mL > 14 years old: Male: 90-195 ng/mL Female: 100-225 ng/mL	
1731U	Kappa Light Chain, Quant 24 hour Urine	Collection Instructions The patient should empty the bladder at 7:00 a.m. and discard. Collect in the plastic container all subsequent urine passed in the 24-hour period, making sure the patient voids at 7:00 a.m. of the second day and that urine is collected. Record the 24-hour urine volume in mL on the container and the test Requisition Form as the total volume is required for calculating results. After the collection is complete, mix the specimen and transfer a 10 mL aliquot of urine to a clean, leakproof screw cap container, closed tightly to avoid leakage.	
8776	Measles IgG	Reference Range Less than 0.90 Index <0.90 Negative 0.90 – 1.09 Equivocal >1.09 Positive	1341 Immune Status Panel - MMR 8771 Measles IgG & IgM Antibodies 2772 Meningoencephalomyelitis Panel (MEM)
4143	Phenytoin, Free	Collection Instructions Serum separator tubes are NOT acceptable.	4145 Phenytoin, Total
4985	Sickle Cell MonitR™	New Component Add: Hemoglobin C by HPLC Reference Range <0.1 % additional CPT Code 83020	
3250	Thyroid Stimulating Hormone, 3rd Generation	Pediatric Reference Range 0-3 d 1.00 – 20.00 µIU/mL 4 d-1 m 0.50 – 6.50 µIU/mL 2 m-5 m 0.50 – 6.00 µIU/mL 6 m – 18 yrs 0.50 – 4.50 µIU/mL >18 yrs 0.35 – 5.50 µIU/mL	2016 Infertility: Endocrine Eval (Female) 2025 Recurrent Spontaneous Abortion: Endocrine Eval 3060 Thyroid Antibodies Eval 3074 Thyroid Panel, Hypo 3072 Thyroid Panel, Hyper 1091 Thyroid Stim Ig w/TSH 1090 Thyrotropin Receptor Autoab w/TSH 3250SR TSH 3rd Gen serial report
3226	Thyroxine (T4)	Pediatric Reference Range 3 days – 1 month: 8.0 – 20.0 ug/dL 2 months – 1 year: 6.0 – 14.0 ug/dL 2 years – 5 years: 4.5 – 11.0 ug/dL 6 years – 18 years: 4.5 – 10.0 ug/dL >18 years: 4.5 – 12.0 ug/dL	3230 Thyroxine, Free Index 3954 Thyroxine Free, Direct Analysis
3228	Thyroxine, (T4) Free	Pediatric Reference Range 3 days – 1 month: 0.9 – 2.2 ng/dL 2 months – 18 years: 0.8 – 2.0 ng/dL > 18 years: 0.81 – 1.61 ng/dL	3072 Thyroid Panel, Hyperthyroid 3074 Thyroid Panel, Hypothyroid

3224	Triiodothyronine (T3)	Pediatric Reference Range 0-3 days old: 0.6 – 3.0 ng/mL 4 days – 1 year old: 0.9 – 2.6 ng/mL 2 – 6 years old: 0.9 – 2.4 ng/mL 7 – 11 years old: 0.9 – 2.3 ng/mL 12 – 18 years old: 1.0 – 2.1 ng/mL > 18 years old: 0.6 – 1.81 ng/mL	3072 Thyroid Panel, Hyperthyroid 3225 Triiodothyronine Free, Tracer Analysis
3460	Tryptase	Specimen EDTA and heparin plasma are acceptable as alternate specimen types.	

Discontinued Tests

Effective Tuesday, July 20, 2004 or as noted

The following test(s) are no longer routinely available from *Specialty*. Whenever possible, alternate tests are recommended. Please note that if a test is designated as a "replacement," contractual pricing will be copied from discontinued test to replacement test. Contractual pricing does not apply to alternate tests or sendout tests. Please contact Client Services or your Sales Representative if you have any questions.

Test Code	Test Name	Reason	Alternate or Replacement Tests
S48518	EGFR send out	In-house test available [alternate]	1835 EGFR pharmDx™
S41152	Fatty Acids Free [22749P]	In-house test available [alternate]	3347 Fatty Acids, Free (Non-Esterified)
4992	Pernicious Anemia AssessR™	Low-volume; new panel available; Also individual tests available	3605 Pernicious Anemia EvaluatR™ 1104 Parietal Cell Total Autoantibodies 3334 Homocysteine UltraQuant® 3496 Methylmalonic Acid
3319	Vanillylmandelic Acid, Pediatric	Pediatric reference ranges are included in panel 3318UR	3318UR Vanillylmandelic Acid Urine Random

For additional information please call Client Services at 800-421-4449 or visit our Web site at www.specialtylabs.com