



# Lyphochek Immunoassay Plus Control Levels 1, 2 and 3

**REF** 370 Trilevel 12 x 5 mL  
**371 Level 1** 12 x 5 mL #1  
**372 Level 2** 12 x 5 mL  
**373 Level 3** 12 x 5 mL  
**370X MiniPak** 3 x 5 mL



**EXP** 2027-05-31

**LOT** 40460

Level 1 40461  
 Level 2 40462  
 Level 3 40463



<https://www.myinserts.com/40460>

## INTENDED USE

Lyphochek Immunoassay Plus Control is intended for use as an assayed quality control serum to monitor the precision of laboratory testing procedures for the analytes listed in this package insert.

## SUMMARY AND PRINCIPLE

The use of quality control materials is indicated as an objective assessment of the precision of methods and techniques in use and is an integral part of good laboratory practices. Multiple levels of control are available to allow monitoring of the test system's reliability.

For customers in Germany: Quality control materials are required for assessment of laboratory performance as described in the "Guideline for Quality Assurance of Medical Laboratory Examinations following the German Medical Association" (Rili-BÄK regulation).

## REAGENT

This product is prepared from human serum with added chemicals, constituents of human and animal origin, therapeutic drugs and stabilizers. This product is provided in lyophilized form for increased stability.

## STORAGE AND STABILITY

This product will be stable until the expiration date when stored unopened at 2 to 8°C. **Reconstituted and Refrigerated:** After reconstituting and storing tightly capped at 2 to 8°C, this product will be stable as follows:

- All analytes: 7 days

Except:

- Folate and PSA (Total): 3 days at 2 to 8°C

- C-Peptide: 1 day at 2 to 8°C

- ACTH, Calcitonin, Gastrin and PSA (Free): After reconstituting, according to the instructions in the Procedure Section, assay immediately.

**Reconstituted and Frozen:** When reconstituted and stored tightly capped at -20 to -70°C, this product will be stable as follows:

- All analytes: 20 days

Except:

- ACTH, Aldosterone, Calcitonin and C-Peptide: No frozen stability provided.

Once thawed, do not refreeze this product. Discard the remaining material.

This product is shipped under ambient conditions.

## PROCEDURE

This product should be treated the same as patient specimens and run in accordance with the instructions accompanying the instrument, kit, or reagent being used.

Using a volumetric pipet or equivalent, reconstitute each vial with 5.0 mL of distilled or deionized water. Replace the stopper and allow this product to stand for approximately 15 minutes swirling occasionally.

Before sampling, allow this product to reach room temperature (18 to 25°C). Gently swirl the vial several times to ensure homogeneity. After each use, promptly replace the stopper and return to 2 to 8°C storage.

## Safety Precautions

- Caution should be used when handling this product to prevent splashing. Wear appropriate eye/face protection when using this product to protect from splashes.
- If, during the use of this device or as a result of its use, a serious incident occurs, please report it to Bio-Rad Laboratories and to your national health authority, as required.
- Dispose of any discarded materials in accordance with the requirements of your local waste management authorities. In the event of damage to packaging, contact the local Bio-Rad Laboratories Sales Office or Bio-Rad Laboratories Technical Services.

## LIMITATIONS

1. This product should not be used past the expiration date.
2. If there is evidence of microbial contamination or excessive turbidity in the reconstituted product, discard the vial.
3. This product is not intended for use as a standard.
4. For Laboratory/Professional Use Only

## WARNING



**Biological source material. Treat as potentially infectious.**

Each human donor unit used to manufacture this product was tested as required by FDA accepted methods. Tests results were non-reactive or negative for evidence of infection due to Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV). This product may also contain other human source materials for which there are no approved tests. In accordance with good laboratory practice, all human source material should be considered potentially infectious and handled with the same precautions used with patient specimens.

Safety Data Sheet (SDS) available for professional users on [www.bio-rad.com](http://www.bio-rad.com).

## SPECIFIC PERFORMANCE CHARACTERISTICS

This product is a freeze-dried product manufactured under rigid quality control standards. To obtain consistent assay values, the control requires proper storage and handling as described.

## ASSIGNMENT OF VALUES

The mean values and corresponding  $\pm 3SD$  ranges in the Assignment of Values Data Charts (available separately) were derived from replicate analyses and are specific for this lot of product. Data from Unity™ Interlaboratory Program are included in the determination of some ranges. The tests listed were performed by the manufacturer and/or independent laboratories using manufacturer supported reagents and a representative sampling of this lot of product. It is recommended that each laboratory establish its own acceptable ranges and use those provided only as guides. Laboratory established ranges may vary from those listed during the life of this control. [Customers in Germany have to follow the requirements as described in the Rili-BÄK regulation.] Variations over time and between laboratories may be caused by differences in laboratory technique, instrumentation and reagents, or by manufacturer test method modifications.

Unity™ Interlaboratory Program is a proprietary Bio-Rad software program holding more than 2 billion QC data points from thousands of laboratories.

## INSTRUCTIONS FOR OBTAINING THE DATA CHARTS

To obtain the Data Charts use the checkboxes on the Customize My Inserts page to select your chart items. You can View & Print your selections or Save Selections. Follow the directions on this website to receive email notifications of insert updates. Alternate methods for receiving data charts are available by contacting your local Bio-Rad Laboratories Office.

## IMPORTANT PRODUCT INFORMATION



**Significant changes are highlighted!**

**For this lot of control** - No claim is made for expected values or stability of the following analyte: **Estrogen (Total)**.

**ANALYTES**

11-Deoxycortisol	Dehydroepiandrosterone-Sulfate (DHEA-Sulfate)	Immunoglobulin E (IgE)	PTH (Intact) □
17-Alpha-Hydroxyprogesterone	Desipramine ○	Immunoglobulin G (IgG) ◆	Quinidine
25-Hydroxy Vitamin D ◆	Digoxin	Immunoglobulin M (IgM) ◆	Salicylate
Acetaminophen	Disopyramide ○	Immunoreactive Trypsinogen (IRT) □	Sex Hormone Binding Globulin (SHBG) □
<b>ACTH</b>	Estradiol	Insulin	T3 (Free)
<b>AFP</b>	<b>Estriol (Free)</b>	Iron ◆	T3 (Total)
Aldosterone	Estriol (Total) □	Iron (TIBC) ◆	T3 Uptake/T Uptake
Amikacin	Estrogen (Total) □ ★	Lidocaine	T4 (Free)
Amiodarone □	Ethosuximide	Lithium	T4 (Total)
Amitriptyline ○	Ferritin	Luteinizing Hormone (LH)	Testosterone
Androstenedione	Flecainide ○	N-Acetyl Procainamide (NAPA)	Testosterone (Free)
Angiotensin I ◆ □	Folate	Netilmicin □	Theophylline
Anti-Thyroglobulin (Anti-Tg) □	Follicle Stimulating Hormone (FSH)	Nortriptyline ○	Thyroglobulin (Tg) ◆
Anti-Thyroperoxidase (Anti-TPO) □	Fructosamine ◆	Phenobarbital	Thyroid Stimulating Hormone (TSH)
Caffeine	<b>Gastrin</b>	Phenytoin	Thyroxine Binding Globulin (TBG) ◆
<b>Calcitonin</b>	Gentamicin	Phenytoin (Free) ○	Tobramycin
Carbamazepine	Glucagon □	Primidone	Tricyclic Antidepressants (TCA) ○
Carbamazepine (Free) ○	<b>hCG</b>	Procainamide	Valproic Acid
CEA	hCG-Beta Subunit	Progesterone	Valproic Acid (Free) ○
Chloramphenicol ○	<b>Human Growth Hormone (hGH)</b>	Prolactin	Vancomycin
Cortisol	<b>IGF-1/Somatomedin C</b> ◆	Propranolol ○	Vitamin B12
C-Peptide	Imipramine ○	Prostatic Acid Phosphatase (PAP)	
Cyclosporine □	Immunoglobulin A (IgA) ◆	PSA (Free)	
Dehydroepiandrosterone (DHEA) □		PSA (Total)	

**NOTES**

- ◆ Endogenous levels only.
- No claim is made for expected value or stability of this analyte.
- Values are not provided.
- ★ See Important Product Information section.

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**METHOD (1)**

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>17-ALPHA-HYDROXYPROGESTERONE (2)</b>							
Diagnostics Biochem Canada ELISA	ng/mL	§		§		§	
DRG ELISA (EIA-1292)	ng/mL	0.980	0.540 – 1.43	2.78	1.53 – 4.03	8.23	4.52 – 11.9
IBL ELISA	ng/mL	0.770	0.270 – 1.26	2.39	1.31 – 3.46	7.26	3.99 – 10.5
Monobind AccuLite CLIA 17-OHP-SI	ng/mL	0.490	0.330 – 0.660	1.69	1.13 – 2.25	4.43	2.97 – 5.90
<b>ACETAMINOPHEN (2)</b>							
SEKURE (Sekisui Diagnostics)	µg/mL	9.40	7.00 – 11.8	33.1	24.8 – 41.4	107	80.2 – 134
<b>ACTH (2) (4)</b>							
Biomerica ELISA	pg/mL	▲		▲		▲	
Monobind AccuBind ELISA	pg/mL	§		§		§	
Monobind AccuLite CLIA	pg/mL	§		§		§	
<b>AFP (2)</b>							
DRG ELISA (EIA-1468)	ng/mL	33.1	21.9 – 44.5	158	104 – >193	>193	
Monobind AccuBind ELISA	ng/mL	15.2	10.2 – 20.3	96.7	64.8 – 129	223	149 – 296
Monobind AccuLite CLIA	ng/mL	15.6	10.4 – 20.7	92.6	62.1 – 123	218	146 – 290
<b>ALDOSTERONE (2)</b>							
Beckman Coulter RIA (DSL8600)	pg/mL	147	103 – 192	308	200 – 416	984	639 – 1328
Monobind AccuBind ELISA	pg/mL	160	107 – 213	319	214 – 424	834	559 – 1109
Monobind AccuLite CLIA	pg/mL	188	126 – 250	353	237 – 470	815	546 – 1083
<b>ANDROSTENEDIONE</b>							
Beckman Coulter RIA (DSL3800) (2)	ng/mL	0.600	0.360 – 0.830	1.66	1.08 – 2.24	2.88	2.01 – 3.74
Calbiotech ELISA (2)	ng/mL	§		§		§	
Diagnostics Biochem Canada ELISA (2)	ng/mL	§		§		§	
DRG ELISA (EIA-3265) (2)	ng/mL	0.540	0.300 – 0.790	1.64	0.900 – 2.37	3.46	1.90 – 5.02
Monobind AccuBind ELISA (ANST) (2)	ng/mL	0.990	0.660 – 1.32	2.55	1.71 – 3.39	5.63	3.77 – 7.48
Monobind AccuLite CLIA (ANST) (2)	ng/mL	1.08	0.730 – 1.44	2.88	1.93 – 3.83	5.40	3.62 – 7.18
Siemens Atellica Solution (ANDRO) (IM)	ng/mL	0.689	0.428 – 0.950	1.33	0.840 – 1.83	2.02	1.28 – 2.75
<b>CAFFEINE</b>							
Emit	µg/mL	2.38	1.58 – 3.19	7.53	5.28 – 9.79	15.6	11.0 – 20.1
<b>CALCITONIN</b>							
Biomerica ELISA (2)	pg/mL	▲		▲		▲	
Monobind AccuBind ELISA (2)	pg/mL	§		§		§	
Monobind AccuLite CLIA (2)	pg/mL	§		§		§	
Siemens Atellica Ci 1900 Analyzer (CALCT) (IM)	pg/mL	12.0	8.32 – 15.7	147	122 – 171	366	307 – 424
Siemens Atellica Solution (CALCT) (IM)	pg/mL	12.0	8.32 – 15.7	147	122 – 171	366	307 – 424
<b>CEA (2)</b>							
Monobind AccuBind ELISA	ng/mL	2.05	1.37 – 2.72	12.6	8.45 – 16.8	20.8	12.4 – 29.3
Monobind AccuLite CLIA	ng/mL	2.20	1.47 – 2.93	11.3	7.54 – 15.0	18.7	12.6 – 24.9
<b>CORTISOL (2)</b>							
DRG ELISA (EIA-1887)	ng/mL	41.0	26.3 – 55.8	222	142 – 302	359	230 – 488
<b>C-PEPTIDE (2)</b>							
Calbiotech ELISA	ng/mL	§		§		§	
DRG ELISA (EIA-1293)	ng/mL	0.560	0.310 – 0.810	4.14	2.28 – 6.00	6.80	3.74 – 9.85
Monobind AccuBind ELISA	ng/mL	0.360	0.240 – 0.480	3.84	2.57 – 5.11	6.26	4.19 – 8.32
Monobind AccuLite CLIA	ng/mL	0.380	0.250 – 0.510	3.78	2.53 – 5.03	5.82	3.90 – 7.74
<b>DEHYDROEPIANDROSTERONE-SULFATE (DHEA-SULFATE) (2)</b>							
Beckman Coulter RIA DHEA-S-7 (DSL2700)	ng/mL	681	511 – 851	2060	1442 – 2678	5521	3865 – 7178
Calbiotech ELISA	µg/mL	§		§		§	
DRG ELISA (EIA-1562)	µg/mL	0.600	0.330 – 0.870	1.61	0.890 – 2.34	4.69	2.58 – 6.81
IBL ELISA	µg/mL	0.830	0.540 – 1.12	2.21	1.44 – 2.98	7.51	4.88 – 10.1
Monobind AccuBind ELISA	µg/mL	0.690	0.460 – 0.920	2.42	1.62 – 3.22	6.81	4.57 – >8.00
Monobind AccuLite CLIA	µg/mL	0.690	0.460 – 0.920	2.38	1.59 – 3.16	6.60	4.42 – >8.00
<b>DIGOXIN (2)</b>							
Monobind AccuBind ELISA	ng/mL	0.830	0.560 – 1.10	2.19	1.47 – 2.92	3.70	2.48 – >4.00
Monobind AccuLite CLIA	ng/mL	0.820	0.550 – 1.09	2.28	1.52 – 3.03	3.89	2.61 – >4.00

**METHOD (1)**

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>ESTRADIOL (2)</b>							
Beckman Coulter RIA US Estradiol (DSL4800)	pg/mL	66.9	43.5 – 90.3	105	68.2 – 142	169	110 – 228
Calbiotech ELISA	pg/mL	§		§		§	
DRG ELISA (EIA-2963)	pg/mL	144	80.9 – 208	440	246 – 633	850	476 – 1224
Monobind AccuBind ELISA	pg/mL	116	77.9 – 155	216	145 – 288	345	231 – 459
Monobind AccuLite CLIA	pg/mL	111	74.4 – 148	204	136 – 271	320	214 – 425
<b>ESTRIOL (FREE) (2)</b>							
Calbiotech ELISA	ng/mL	§		§		§	
DRG ELISA (EIA-1612)	ng/mL	2.10	1.15 – 3.04	5.46	3.00 – 7.92	13.1	7.21 – 19.0
Monobind AccuBind ELISA Unconjugated (uE3)	ng/mL	2.80	1.87 – 3.72	8.43	5.65 – 11.2	17.2	11.5 – 22.8
Monobind AccuLite CLIA Unconjugated (uE3)	ng/mL	3.22	2.16 – 4.28	9.86	6.61 – 13.1	16.4	11.0 – 21.9
<b>ETHOSUXIMIDE</b>							
Emit	µg/mL	27.9	21.9 – 33.9	64.7	50.9 – 78.4	123	99.5 – 147
<b>FERRITIN (2)</b>							
Monobind AccuBind ELISA	ng/mL	53.5	35.9 – 71.2	115	77.1 – 153	356	238 – 473
Monobind AccuLite CLIA	ng/mL	52.5	35.2 – 69.8	118	79.1 – 157	346	232 – 460
<b>FOLATE (2)</b>							
Monobind AccuBind ELISA	ng/mL	2.70	1.81 – 3.59	6.51	4.36 – 8.66	10.7	7.19 – 14.3
Monobind AccuLite CLIA	ng/mL	3.08	2.06 – 4.10	6.93	4.65 – 9.22	10.6	6.77 – 14.3
<b>FOLLICLE STIMULATING HORMONE (FSH) (2)</b>							
Calbiotech ELISA	mIU/mL	§		§		§	
DRG ELISA (EIA-1288)	mIU/mL	5.17	2.84 – 7.50	19.0	10.5 – 27.6	33.2	18.2 – 48.1
Monobind AccuBind ELISA	mIU/mL	6.05	4.05 – 8.04	23.8	16.0 – 31.7	51.3	34.3 – 68.2
Monobind AccuLite CLIA	mIU/mL	5.88	3.94 – 7.82	23.2	15.6 – 30.9	51.3	34.4 – 68.2
<b>FRUCTOSAMINE</b>							
Siemens Atellica Solution	µmol/L	243	233 – 253	178	166 – 191	157	133 – 182
<b>HCG (2)</b>							
DRG ELISA (EIA-1469)	mIU/mL	12.2	7.58 – 16.9	34.9	21.7 – 48.2	202	125 – 279
Monobind AccuBind ELISA	mIU/mL	8.40	5.63 – 11.2	24.9	16.7 – 33.1	213	143 – >250
Monobind AccuBind ELISA (hCG-XR)	mIU/mL	4.86	3.25 – 6.46	18.8	12.6 – 25.0	188	126 – 251
Monobind AccuBind ELISA (Rapid hCG)	mIU/mL	4.89	3.28 – 6.51	21.5	14.4 – 28.6	221	148 – >250
Monobind AccuLite CLIA	mIU/mL	5.16	3.46 – 6.86	20.9	14.0 – 27.8	237	159 – >250
Monobind AccuLite CLIA (hCG-XR)	mIU/mL	5.55	3.72 – 7.38	18.7	12.5 – 24.8	177	119 – 236
<b>HCG-BETA SUBUNIT (2)</b>							
DRG ELISA (EIA-1911)	mIU/mL	3.02	1.87 – 4.17	15.6	9.67 – 21.5	118	72.9 – 162
<b>HUMAN GROWTH HORMONE (HGH) (2)</b>							
Calbiotech ELISA	ng/mL	§		§		§	
MEDIAGNOST ELISA	µIU/mL	10.6	8.50 – 12.8	30.1	24.1 – 36.1	50.0	40.0 – 60.0
Monobind AccuBind ELISA	µIU/mL	11.4	7.67 – 15.2	34.0	21.9 – 46.1	65.9	44.2 – 87.7
Monobind AccuLite CLIA	µIU/mL	11.5	7.71 – 15.3	35.4	23.7 – 47.1	64.3	43.1 – 85.5
<b>IGF-1/SOMATOMEDIN C (2)</b>							
MEDIAGNOST IGF-1 ELISA (IGFBP Blocked)	ng/mL	122	98.0 – 147	130	104 – 156	133	106 – 159
MEDIAGNOST IGF-1 RIA (IGFBP Blocked)	ng/mL	122	98.0 – 147	130	104 – 156	133	106 – 159
<b>IMMUNOGLOBULIN E (IGE)</b>							
ImmunoCAP total IgE	IU/mL	375	256 – 494	110	76.4 – 144	141	97.2 – 185
Monobind AccuBind ELISA (2)	IU/mL	363	243 – >400	92.7	62.1 – 123	117	78.7 – 156
Monobind AccuLite CLIA (2)	IU/mL	343	230 – >400	87.9	58.9 – 117	114	76.2 – 151
<b>INSULIN (2)</b>							
Calbiotech ELISA	µIU/mL	§		§		§	
DRG ELISA (EIA-2935)	µIU/mL	15.0	8.24 – 21.7	75.0	41.2 – >100	>100	
Monobind AccuBind ELISA	µIU/mL	11.2	7.53 – 15.0	50.8	34.1 – 67.6	150	100 – 199
Monobind AccuLite CLIA	µIU/mL	11.4	7.62 – 15.1	49.7	33.3 – 66.1	144	96.3 – 191
<b>LIDOCAINE</b>							
Emit	µg/mL	1.08	<1.00 – 1.34	3.45	2.64 – 4.25	6.78	5.21 – 8.35
<b>LUTEINIZING HORMONE (LH) (2)</b>							
Calbiotech ELISA	mIU/mL	§		§		§	

**METHOD (1)**

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>LUTEINIZING HORMONE (LH) (2) (continued)</b>							
DRG Serum ELISA (EIA-1289)	mIU/mL	2.75	1.51 – 3.99	22.4	12.3 – 32.5	58.6	32.2 – 85.0
Monobind AccuBind ELISA	mIU/mL	1.64	1.05 – 2.23	22.6	15.1 – 30.0	70.6	47.3 – 93.9
Monobind AccuLite CLIA	mIU/mL	<5.00		23.0	15.4 – 30.6	72.3	48.4 – 96.2
<b>PRIMIDONE</b>							
Emit	µg/mL	3.05	<2.50 – 3.80	5.71	4.58 – 6.85	11.3	9.36 – 13.2
<b>PROGESTERONE (2)</b>							
Diagnostics Biochem Canada ELISA	ng/mL	§		§		§	
DRG ELISA (EIA-1561)	ng/mL	0.740	0.410 – 1.08	8.97	4.94 – 13.0	30.5	16.8 – >40.0
Monobind AccuBind ELISA	ng/mL	1.27	0.790 – 1.74	12.3	8.27 – 16.4	25.8	17.3 – 34.3
Monobind AccuLite CLIA	ng/mL	1.36	0.910 – 1.81	12.4	8.31 – 16.5	27.9	18.7 – 37.2
<b>PROLACTIN (2)</b>							
Calbiotech ELISA	ng/mL	§		§		§	
DRG ELISA (EIA-1291)	ng/mL	4.81	2.65 – 6.98	12.1	6.63 – 17.5	29.3	16.1 – 42.5
Monobind AccuBind ELISA	ng/mL	8.84	5.92 – 11.8	23.8	16.0 – 31.7	55.3	37.1 – 73.6
Monobind AccuLite CLIA	ng/mL	7.87	5.27 – 10.5	23.1	15.5 – 30.7	58.5	39.2 – 77.9
<b>PSA (TOTAL) (2)</b>							
Monobind AccuBind ELISA	ng/mL	<2.00		5.02	3.36 – 6.67	25.9	17.3 – 34.4
MonoBind AccuBind ELISA (tPSA-XS)	ng/mL	0.870	0.580 – 1.15	3.97	2.66 – 5.27	>25.0	
Monobind AccuLite CLIA	ng/mL	<2.00		4.74	3.18 – 6.31	24.5	16.4 – 32.6
Monobind AccuLite CLIA (tPSA-XS)	ng/mL	§		§		§	
<b>QUINIDINE</b>							
Emit 2000	µg/mL	0.852	0.503 – 1.20	2.48	1.71 – 3.24	4.33	3.11 – 5.54
<b>SALICYLATE (2)</b>							
SEKURE (Sekisui Diagnostics)	mg/dL	<5.30		16.5	12.4 – 20.6	43.7	32.8 – 54.6
<b>T3 (FREE) (2)</b>							
Calbiotech ELISA	pg/mL	§		§		§	
Monobind AccuBind ELISA	pg/mL	2.60	1.74 – 3.46	4.90	3.29 – 6.52	7.61	5.10 – 10.1
Monobind AccuLite CLIA	pg/mL	2.54	1.70 – 3.38	4.93	3.30 – 6.56	7.75	5.19 – 10.3
<b>T3 (TOTAL) (2)</b>							
Monobind AccuBind ELISA	ng/mL	0.950	0.630 – 1.26	2.31	1.55 – 3.07	4.09	2.74 – 5.44
Monobind AccuLite CLIA	ng/mL	1.06	0.710 – 1.41	2.34	1.57 – 3.11	3.87	2.59 – 5.14
<b>T3 UPTAKE/T UPTAKE (2)</b>							
Monobind AccuBind ELISA	% Uptake	30.3	27.0 – 33.5	35.4	32.2 – 38.6	41.1	37.9 – 44.3
Monobind AccuLite CLIA	% Uptake	30.3	27.2 – 33.4	35.8	32.8 – 38.8	41.7	38.6 – 44.9
<b>T4 (FREE) (2)</b>							
Monobind AccuBind ELISA	ng/dL	0.840	0.560 – 1.11	1.96	1.31 – 2.60	3.58	2.40 – 4.76
Monobind AccuLite CLIA	ng/dL	0.810	0.540 – 1.08	1.91	1.28 – 2.54	3.36	2.24 – 4.48
<b>T4 (TOTAL) (2)</b>							
Monobind AccuBind ELISA	µg/dL	4.70	3.15 – 6.25	9.54	6.39 – 12.7	16.6	11.1 – 22.1
Monobind AccuLite CLIA	µg/dL	4.97	3.33 – 6.61	9.42	6.31 – 12.5	15.6	10.5 – 20.8
<b>TESTOSTERONE (2)</b>							
DRG ELISA (EIA-1559)	ng/mL	1.45	0.840 – 2.05	3.93	2.28 – 5.58	10.9	6.33 – 15.5
<b>TESTOSTERONE (FREE) (2)</b>							
Beckman Coulter RIA (DSL4900)	pg/mL	2.95	1.77 – 4.13	9.40	6.11 – 12.7	29.1	20.4 – 37.8
<b>THYROID STIMULATING HORMONE (TSH) (2)</b>							
Fortress Diagnostics	µIU/mL	▲		▲		▲	
Monobind AccuBind ELISA	µIU/mL	0.490	0.330 – 0.660	5.39	3.61 – 7.17	32.9	22.1 – >40.0
Monobind AccuBind ELISA (Rapid TSH)	µIU/mL	0.430	0.290 – 0.570	5.57	3.73 – 7.40	32.1	21.5 – 42.7
Monobind AccuLite CLIA	µIU/mL	0.500	0.340 – 0.670	5.10	3.42 – 6.79	34.2	22.9 – >40.0
Monobind AccuLite CLIA (Rapid TSH)	µIU/mL	0.490	0.330 – 0.650	5.10	3.42 – 6.78	31.2	20.9 – 41.4

**INSTRUMENT (1)**

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>Abbott Alinity c Analyzer</b>							
Acetaminophen	µg/mL	10.3	7.33 – 13.3	35.2	30.5 – 39.8	111	101 – 121
Amikacin	µg/mL	5.00	3.42 – 6.58	11.8	9.68 – 14.0	25.2	21.9 – 28.4
Carbamazepine	µg/mL	2.46	<1.90 – 3.89	7.35	5.55 – 9.16	12.6	10.4 – 14.7
Digoxin	ng/mL	0.747	0.526 – 0.967	2.17	1.68 – 2.65	3.81	3.02 – 4.60
Gentamicin	µg/mL	2.15	1.53 – 2.77	4.37	3.58 – 5.15	6.48	5.53 – 7.43
Lithium	mmol/L	0.401	0.308 – 0.493	1.10	0.961 – 1.23	1.71	1.54 – 1.89
Phenobarbital	µg/mL	8.38	5.92 – 10.8	21.5	16.8 – 26.2	48.9	39.5 – 58.3
Phenytoin	µg/mL	6.58	5.43 – 7.73	13.9	11.7 – 16.1	25.4	21.5 – 29.3
Salicylate	mg/dL		<5.00 – 5.40	15.3	12.5 – 18.1	42.7	35.6 – 49.8
Theophylline	µg/mL	4.23	3.17 – 5.30	13.4	10.4 – 16.3	24.5	19.2 – 29.8
Tobramycin	µg/mL	0.657	0.414 – 0.899	2.20	1.81 – 2.58	4.89	4.25 – 5.54
Valproic Acid	µg/mL	28.3	20.8 – 35.7	73.9	62.4 – 85.5	110	95.2 – 125
Vancomycin	µg/mL	7.11	5.59 – 8.64	18.9	16.0 – 21.7	34.8	30.1 – 39.5
<b>Abbott Alinity i Analyzer</b>							
AFP	ng/mL	17.4	14.5 – 20.4	97.8	85.1 – 111	216	189 – 243
CEA	ng/mL	2.29	1.75 – 2.82	18.7	16.2 – 21.3	41.1	35.8 – 46.4
Cortisol	µg/dL	3.20	2.43 – 3.97	16.2	14.0 – 18.5	22.9	19.9 – 25.9
C-Peptide	ng/mL	0.516	0.315 – 0.717	5.52	4.60 – 6.44	8.92	7.53 – 10.3
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate)	µg/dL	77.2	65.8 – 88.5	184	157 – 210	625	536 – 714
Estradiol	pg/mL	87.3	63.5 – 111	174	144 – 204	269	232 – 307
Ferritin	ng/mL	87.6	74.5 – 101	274	224 – 324	756	613 – 900
Folate	ng/mL	4.44	2.53 – 6.34	11.2	7.61 – 14.7	19.0	13.4 – >20.0
Follicle Stimulating Hormone (FSH)	mIU/mL	5.54	4.77 – 6.32	21.1	18.1 – 24.0	41.1	35.3 – 46.9
hCG	mIU/mL	5.36	3.43 – 7.29	29.7	24.5 – 34.8	231	198 – 263
Insulin	µIU/mL	9.96	8.08 – 11.8	46.3	40.6 – 52.0	145	128 – 161
Luteinizing Hormone (LH)	mIU/mL	1.04	0.884 – 1.19	14.7	12.8 – 16.7	51.3	44.7 – 58.0
Progesterone	ng/mL	0.528	<0.500 – 0.782	8.21	6.66 – 9.77	21.9	18.0 – 25.8
Prolactin	ng/mL	7.31	6.29 – 8.33	20.6	17.4 – 23.8	47.4	39.8 – 55.1
PSA (Free)	ng/mL	0.490	0.409 – 0.572	2.16	1.78 – 2.54	11.2	9.20 – 13.1
PSA (Total)	ng/mL	0.800	0.638 – 0.962	3.05	2.46 – 3.65	14.2	11.5 – 17.0
T3 (Free)	pg/mL	2.39	1.86 – 2.92	6.51	5.16 – 7.85	15.8	13.0 – 18.6
T3 (Total)	ng/mL	0.699	0.597 – 0.801	1.79	1.52 – 2.07	3.13	2.66 – 3.60
T3 Uptake/T Uptake	T Uptake Unit	0.931	0.808 – 1.05	0.858	0.724 – 0.991	0.845	0.710 – 0.980
T4 (Free)	ng/dL	0.720	0.604 – 0.836	1.67	1.30 – 2.04	3.96	2.98 – 4.94
T4 (Total)	µg/dL	4.60	3.95 – 5.24	9.37	7.92 – 10.8	15.4	12.9 – 17.9
Testosterone	ng/dL	182	148 – 217	357	289 – 425	867	701 – 1033
Thyroid Stimulating Hormone (TSH)	µIU/mL	0.374	0.305 – 0.444	4.70	4.07 – 5.33	28.8	24.9 – 32.7
Vitamin B12	pg/mL	374	271 – 478	490	367 – 613	653	503 – 803
<b>ABBOTT ARCHITECT cSYSTEMS</b>							
Acetaminophen (MULTIGENT)	µg/mL	9.47	5.98 – 13.0	33.9	29.0 – 38.8	109	98.9 – 119
Carbamazepine (5P05-21)	µg/mL	§		§		§	
Digoxin (MULTIGENT)	ng/mL	0.747	0.527 – 0.966	2.17	1.80 – 2.54	3.81	3.28 – 4.34
Gentamicin (MULTIGENT)	µg/mL	2.15	1.61 – 2.69	4.37	3.64 – 5.10	6.48	5.57 – 7.40
Immunoglobulin A (IgA)	mg/dL	172	137 – 207	152	121 – 183	156	125 – 187
Immunoglobulin E (IgE) (MULTIGENT)	IU/mL	§		§		§	
Immunoglobulin G (IgG)	mg/dL	905	786 – 1023	808	690 – 927	836	717 – 954
Immunoglobulin M (IgM)	mg/dL	71.7	65.0 – 78.4	71.2	64.5 – 77.9	69.9	63.1 – 76.6
Iron	µg/dL	36.0	21.1 – 50.9	88.7	73.8 – 104	81.2	66.3 – 96.1
Lithium (MULTIGENT)	mEq/L	0.442	0.346 – 0.539	1.16	1.01 – 1.31	1.81	1.61 – 2.00
Phenobarbital (5P07-21)	µg/mL	§		§		§	
Phenytoin (5P08-21)	µg/mL	6.80	5.40 – 8.20	14.2	11.2 – 17.1	25.5	20.1 – 31.0
Salicylate (MULTIGENT)	mg/dL	<5.00		15.4	13.0 – 17.7	43.9	37.6 – 50.2
Theophylline (5P06-21)	µg/mL	§		§		§	
Tobramycin (MULTIGENT)	µg/mL	0.610	0.416 – 0.804	2.25	1.92 – 2.58	5.05	4.48 – 5.63
Valproic Acid (MULTIGENT)	µg/mL	26.9	21.0 – 32.7	70.0	61.7 – 78.3	105	94.4 – 115

**INSTRUMENT (1)**

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>ABBOTT ARCHITECT cSYSTEMS (continued)</b>							
Vancomycin (MULTIGENT)	µg/mL	6.93	5.38 – 8.47	18.1	15.2 – 21.0	34.1	29.3 – 38.9
<b>ABBOTT ARCHITECT iSYSTEMS</b>							
AFP	ng/mL	16.9	12.0 – 21.8	93.7	75.4 – 112	206	165 – 246
CEA	ng/mL	2.51	1.79 – 3.22	18.3	15.1 – 21.5	40.1	33.6 – 46.7
Cortisol	µg/dL	3.30	2.48 – 4.12	17.1	14.3 – 19.9	23.8	20.1 – 27.5
C-Peptide	ng/mL	§		§		§	
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate)	µg/dL	74.0	62.0 – 85.9	186	156 – 216	632	530 – 735
Digoxin	ng/mL	0.518	0.375 – 0.661	1.57	1.33 – 1.82	2.92	2.55 – 3.30
Estradiol	pg/mL	87.1	68.2 – 106	178	151 – 204	284	249 – 318
Ferritin	ng/mL	85.4	68.1 – 103	268	208 – 329	763	592 – 934
Folate	ng/mL	4.33	2.70 – 5.95	12.0	8.67 – 15.2		14.9 – >20.0
Follicle Stimulating Hormone (FSH)	mIU/mL	5.72	4.78 – 6.67	21.6	18.0 – 25.2	43.4	36.1 – 50.7
Gentamicin	µg/mL	2.08	1.74 – 2.42	4.54	3.72 – 5.36	6.85	5.58 – 8.12
hCG	mIU/mL	4.43	2.51 – 6.35	26.6	21.2 – 32.0	218	182 – 254
Insulin	µIU/mL	10.6	8.72 – 12.5	49.0	43.0 – 55.1	149	132 – 167
Luteinizing Hormone (LH)	mIU/mL	1.09	0.825 – 1.35	15.0	11.9 – 18.0	51.3	41.1 – 61.6
Phenobarbital	µg/mL	9.83	7.97 – 11.7	23.5	19.5 – 27.5	51.7	43.2 – 60.2
Phenytoin	µg/mL	6.39	5.39 – 7.40	12.7	10.6 – 14.7	24.0	20.0 – 28.1
Progesterone	ng/mL	0.603	0.419 – 0.788	9.32	7.26 – 11.4	25.3	19.8 – 30.8
Prolactin	ng/mL	7.09	5.70 – 8.47	19.2	15.5 – 22.9	44.7	36.3 – 53.1
PSA (Free)	ng/mL	0.522	0.449 – 0.596	2.32	1.89 – 2.74	11.9	9.56 – 14.2
PSA (Total)	ng/mL	0.698	0.528 – 0.869	2.73	2.18 – 3.28	13.6	11.0 – 16.2
T3 (Free)	pg/mL	2.41	1.79 – 3.02	6.06	4.60 – 7.52	14.6	11.4 – 17.9
T3 (Total)	ng/mL	0.700	0.536 – 0.864	1.80	1.45 – 2.14	3.05	2.50 – 3.61
T3 Uptake/T Uptake	T Uptake Unit	0.819	0.664 – 0.974	0.743	0.604 – 0.883	0.733	0.593 – 0.872
T4 (Free)	ng/dL	0.786	0.677 – 0.896	1.77	1.37 – 2.17	3.77	2.69 – 4.85
T4 (Total)	µg/dL	4.68	3.82 – 5.53	9.53	7.54 – 11.5	16.6	13.0 – 20.2
Testosterone	ng/dL	174	129 – 219	346	268 – 423	897	714 – 1080
Theophylline	µg/mL	4.37	3.58 – 5.16	13.1	10.3 – 15.8	24.6	19.3 – 29.9
Thyroid Stimulating Hormone (TSH)	µIU/mL	0.365	0.227 – 0.504	4.48	3.70 – 5.27	27.0	22.5 – 31.4
Valproic Acid	µg/mL	29.2	23.1 – 35.2	73.9	59.9 – 87.9	110	89.5 – 130
Vancomycin (1P30-28)	µg/mL	7.78	6.42 – 9.13	20.6	17.1 – 24.1	38.6	32.2 – 45.1
Vitamin B12	pg/mL	344	247 – 441	464	340 – 588	657	490 – 823
<b>BECKMAN COULTER ACCESS / 2 / 2i</b>							
AFP	ng/mL	16.9	12.0 – 21.9	85.3	63.9 – 107	191	144 – 237
CEA (CEA2)	ng/mL	§		§		§	
Cortisol	µg/dL	2.97	1.94 – 3.99	18.0	13.8 – 22.1	26.1	20.2 – 31.9
C-Peptide	ng/mL	§		§		§	
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate)	µg/dL	56.3	42.2 – 70.5	137	108 – 167	428	344 – 512
Digoxin	ng/mL	0.790	0.566 – 1.01	2.02	1.60 – 2.44	3.36	2.73 – 3.98
Estradiol	pg/mL	§		§		§	
Estradiol (Sensitive)	pg/mL	92.8	47.2 – 138	208	136 – 279	334	234 – 434
Estriol (Free) (Unconjugated Estriol)	ng/mL	§		§		§	
Estriol (Free) (Unconjugated Estriol) (C22255) (2)	ng/mL	▲		▲		▲	
Ferritin	ng/mL	51.6	40.6 – 62.5	131	101 – 161	342	261 – 424
Folate (FOLW)	ng/mL	4.03	3.05 – 5.02	9.94	7.78 – 12.1	15.7	12.4 – 19.1
Follicle Stimulating Hormone (FSH) (hFSH)	mIU/mL	7.00	5.27 – 8.72	20.5	15.6 – 25.4	33.3	25.3 – 41.2
hCG (Total hCG) (5th IS)	mIU/mL	6.17	4.82 – 7.52	29.4	24.3 – 34.6	226	189 – 263
Insulin (Ultrasensitive Insulin)	µIU/mL	12.2	9.51 – 14.9	54.1	44.5 – 63.7	159	131 – 186
Luteinizing Hormone (LH) (hLH)	mIU/mL	1.18	0.835 – 1.53	18.7	14.5 – 22.9	58.2	45.2 – 71.3
Progesterone	ng/mL	0.713	0.507 – 0.920	9.39	7.33 – 11.4	22.9	18.0 – 27.9
Progesterone (II) (2)	ng/mL	▲		▲		▲	
Progesterone (P4DE)	ng/mL	0.431	0.296 – 0.570	7.34	5.59 – 9.09	19.6	15.0 – 24.3
Prolactin	ng/mL	7.25	5.90 – 8.60	18.2	15.0 – 21.5	41.2	34.0 – 48.3
Prolactin (338754 and above) (2)	ng/mL	▲		▲		▲	

## INSTRUMENT (1)

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>BECKMAN COULTER ACCESS / 2 / 2i (continued)</b>							
PSA (Free) (Hybritech free PSA)	ng/mL	0.692	0.565 – 0.818	2.80	2.31 – 3.29	14.0	11.6 – 16.4
PSA (Free) (WHO 96/668)	ng/mL	0.545	0.445 – 0.644	2.27	1.87 – 2.67	11.1	9.20 – 13.0
PSA (Total) (Hybritech PSA)	ng/mL	1.14	0.924 – 1.35	4.11	3.42 – 4.81	21.2	17.7 – 24.7
PSA (Total) (WHO 96/670)	ng/mL	0.963	0.781 – 1.14	3.20	2.66 – 3.75	16.5	13.8 – 19.2
T3 (Free) (Free T3)	pg/mL	2.43	1.82 – 3.04	5.64	4.42 – 6.86	10.9	8.66 – 13.1
T3 (Total) (Total T3)	ng/mL	0.880	0.606 – 1.15	1.90	1.46 – 2.34	3.44	2.76 – 4.13
T3 Uptake/T Uptake	% Uptake	44.0	35.7 – 52.2	46.5	37.9 – 55.1	52.2	42.8 – 61.5
T4 (Free) (Free T4)	ng/dL	0.723	0.576 – 0.871	1.92	1.54 – 2.29	4.10	3.32 – 4.88
T4 (Total) (Total T4)	µg/dL	§		§		§	
Testosterone	ng/mL	1.14	0.866 – 1.41	3.33	2.67 – 3.99	8.80	7.16 – 10.4
Thyroid Stimulating Hormone (TSH) (3rd IS)	µIU/mL	0.407	0.343 – 0.470	5.32	4.23 – 6.40	33.8	26.8 – 40.8
Vitamin B12	pg/mL	259	195 – 323	359	273 – 446	531	405 – 656
Vitamin B12 (II) (Ref D06116)	pg/mL	§		§		§	
<b>BECKMAN COULTER AU SYSTEMS</b>							
Acetaminophen	µg/mL		<10.0 – 12.1	33.2	26.8 – 39.7	107	88.5 – 126
Carbamazepine	µg/mL	2.47	<2.00 – 3.33	7.48	5.62 – 9.35	13.2	10.2 – 16.2
Digoxin	ng/mL	0.681	0.236 – 1.13	1.94	1.25 – 2.62	3.27	2.33 – 4.20
Ferritin	ng/mL	73.1	54.3 – 91.9	144	117 – 170	343	294 – 391
Gentamicin	µg/mL	2.38	1.83 – 2.94	5.03	3.84 – 6.22	7.22	5.50 – 8.93
Immunoglobulin A (IgA)	mg/dL	177	141 – 212	161	126 – 197	164	129 – 199
Immunoglobulin G (IgG)	mg/dL	893	774 – 1011	798	678 – 917	832	713 – 950
Immunoglobulin M (IgM)	mg/dL	72.2	61.3 – 83.0	71.2	60.4 – 81.9	69.8	59.2 – 80.5
Lithium	mEq/L	0.500	0.337 – 0.663	1.20	1.02 – 1.38	1.83	1.64 – 2.03
Phenobarbital	µg/mL	8.65	6.49 – 10.8	21.5	16.9 – 26.1	46.5	37.1 – 56.0
Phenytoin	µg/mL	6.22	4.54 – 7.90	12.5	9.09 – 16.0	25.3	18.3 – 32.3
Salicylate	mg/dL	3.70	2.65 – 4.75	15.2	12.3 – 18.0	41.0	34.1 – 47.9
T4 (Total) (DRI)	µg/dL	5.17	4.02 – 6.32	10.9	9.58 – 12.2	14.2	12.7 – 15.6
Theophylline	µg/mL	4.62	3.61 – 5.63	14.1	10.1 – 18.1	26.7	18.7 – 34.7
Tobramycin	µg/mL	0.987	0.702 – 1.27	2.79	2.35 – 3.24	6.08	5.34 – 6.82
Valproic Acid	µg/mL	34.8	26.3 – 43.4	80.0	65.5 – 94.5	115	96.1 – 135
Vancomycin	µg/mL	6.38	4.55 – 8.22	15.5	12.2 – 18.8	28.3	22.9 – 33.6
<b>BECKMAN COULTER SYNCHRON / UniCel DxC SERIES</b>							
Acetaminophen	µg/mL	§		§		§	
Carbamazepine	µg/mL	§		§		§	
Digoxin	ng/mL	§		§		§	
Gentamicin	µg/mL	§		§		§	
Iron	µg/dL	§		§		§	
Lithium (Infinity)	mEq/L	§		§		§	
Phenobarbital	µg/mL	§		§		§	
Phenytoin	µg/mL	§		§		§	
Salicylate	mg/dL	§		§		§	
Theophylline	µg/mL	§		§		§	
Tobramycin	µg/mL	§		§		§	
Valproic Acid	µg/mL	§		§		§	
Vancomycin	µg/mL	§		§		§	
<b>BECKMAN COULTER UniCel Dxl</b>							
AFP	ng/mL	17.0	12.6 – 21.5	88.5	65.2 – 112	192	141 – 242
CEA (CEA2)	ng/mL	1.95	1.46 – 2.43	16.8	12.8 – 20.8	36.1	27.5 – 44.7
Cortisol	µg/dL	2.87	1.86 – 3.87	18.4	14.0 – 22.7	27.0	20.8 – 33.3
C-Peptide	ng/mL	0.340	0.137 – 0.543	3.59	2.71 – 4.48	5.89	4.49 – 7.28
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate) (DHEA-S)	µg/dL	61.0	43.7 – 78.3	151	112 – 191	442	331 – 552
Digoxin	ng/mL	0.790	0.566 – 1.01	2.02	1.60 – 2.44	3.36	2.73 – 3.98
Estradiol (Sensitive)	pg/mL	85.9	47.3 – 125	193	124 – 263	327	219 – 435
Estriol (Free) (Unconjugated Estriol)	ng/mL	§		§		§	
Estriol (Free) (Unconjugated Estriol) (C22255) (2)	ng/mL	▲		▲		▲	

## INSTRUMENT (1)

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>BECKMAN COULTER UniCel Dxl (continued)</b>							
Ferritin	ng/mL	51.8	39.9 – 63.6	130	98.8 – 162	348	262 – 433
Folate (FOLW)	ng/mL	4.14	3.10 – 5.17	10.3	8.04 – 12.5	16.4	13.0 – 19.8
Follicle Stimulating Hormone (FSH) (hFSH)	mIU/mL	7.00	5.27 – 8.72	20.5	15.6 – 25.4	33.3	25.3 – 41.2
hCG (Total hCG) (5th IS)	mIU/mL	5.60	4.34 – 6.86	26.8	21.8 – 31.7	208	172 – 245
Human Growth Hormone (hGH) (Ultrasensitive hGH)	ng/mL	§		§		§	
Insulin (Ultrasensitive Insulin)	µIU/mL	11.2	8.66 – 13.7	52.8	42.6 – 63.0	158	127 – 188
Luteinizing Hormone (LH) (hLH)	mIU/mL	1.18	0.835 – 1.53	18.7	14.5 – 22.9	58.2	45.2 – 71.3
Progesterone	ng/mL	0.600	0.416 – 0.784	9.32	7.26 – 11.4	23.7	18.5 – 28.9
Progesterone (P4DE)	ng/mL	0.356	0.238 – 0.480	7.28	5.53 – 9.09	20.3	15.5 – 25.3
Prolactin	ng/mL	6.15	4.85 – 7.45	17.0	13.5 – 20.6	38.6	30.6 – 46.7
Prolactin (338754 and above) (2)	ng/mL	▲		▲		▲	
PSA (Free) (Hybritech free PSA)	ng/mL	▲		▲		▲	
PSA (Free) (WHO 96/668)	ng/mL	▲		▲		▲	
PSA (Total) (Hybritech PSA)	ng/mL	1.00	0.796 – 1.21	3.66	2.93 – 4.39	18.0	14.5 – 21.5
PSA (Total) (WHO 96/670)	ng/mL	0.845	0.673 – 1.02	2.85	2.28 – 3.42	14.0	11.3 – 16.7
T3 (Free) (Free T3)	pg/mL	2.26	1.60 – 2.91	5.12	3.49 – 6.75	9.02	5.99 – 12.1
T3 (Total) (Total T3)	ng/mL	0.777	0.509 – 1.04	1.86	1.37 – 2.35	3.31	2.51 – 4.10
T3 Uptake/T Uptake	% Uptake	46.7	38.3 – 55.1	46.9	38.5 – 55.3	53.8	44.4 – 63.2
T4 (Free) (Free T4)	ng/dL	0.743	0.547 – 0.940	1.84	1.44 – 2.23	4.59	3.67 – 5.51
T4 (Total) (Total T4)	µg/dL	5.02	3.41 – 6.62	9.63	7.15 – 12.1	17.9	13.9 – 21.9
Testosterone	ng/mL	1.20	0.935 – 1.47	3.31	2.57 – 4.05	8.17	6.34 – 10.0
Thyroid Stimulating Hormone (TSH) (3rd IS)	µIU/mL	0.396	0.326 – 0.466	5.33	4.26 – 6.41	35.1	27.9 – 42.2
Vitamin B12	pg/mL	249	179 – 319	357	262 – 452	551	410 – 692
Vitamin B12 (II) (Ref D06116)	pg/mL	§		§		§	
<b>Beckman Coulter UniCel Dxl 9000</b>							
Cortisol	µg/dL	2.97	1.93 – 4.01	18.0	13.8 – 22.1	26.1	20.2 – 31.9
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate)	µg/dL	56.3	42.3 – 70.4	137	107 – 167	428	342 – 514
Estradiol (Sensitive)	pg/mL	92.8	50.5 – 135	208	139 – 276	334	237 – 432
Ferritin	ng/mL	51.6	40.6 – 62.5	131	101 – 161	342	262 – 423
Folate (FOLW)	ng/mL	4.03	3.06 – 5.00	9.94	7.80 – 12.1	15.7	12.5 – 19.0
Follicle Stimulating Hormone (FSH) (hFSH)	mIU/mL	7.00	5.39 – 8.61	20.5	16.1 – 24.9	33.3	26.3 – 40.3
hCG (Total hCG) (5th IS)	mIU/mL	6.17	4.84 – 7.51	29.4	24.3 – 34.5	226	189 – 263
Insulin (Ultrasensitive Insulin)	µIU/mL	12.2	9.47 – 15.0	54.1	44.6 – 63.6	159	131 – 186
Luteinizing Hormone (LH) (hLH)	mIU/mL	1.18	0.838 – 1.52	18.7	15.1 – 22.3	58.2	47.4 – 69.0
Progesterone (II)	ng/mL	▲		▲		▲	
Prolactin	ng/mL	7.25	5.87 – 8.63	18.2	14.8 – 21.6	41.2	33.6 – 48.8
T3 (Free) (Free T3)	pg/mL	2.43	1.83 – 3.04	5.64	4.43 – 6.85	10.9	8.68 – 13.1
T3 (Total) (Total T3)	ng/mL	0.880	0.605 – 1.15	1.90	1.46 – 2.35	3.44	2.75 – 4.14
Testosterone	ng/mL	1.14	0.864 – 1.41	3.33	2.66 – 4.00	8.80	7.15 – 10.4
Vitamin B12	pg/mL	259	197 – 322	359	273 – 445	531	405 – 657
<b>BIOMÉRIEUX VIDAS</b>							
AFP	ng/mL	18.2	12.3 – 24.1	96.1	65.0 – 127	222	150 – 294
CEA (S)	ng/mL	1.35	0.850 – 1.85	8.02	6.05 – 9.99	13.5	10.3 – 16.8
Digoxin	ng/mL	§		§		§	
Estradiol (II)	pg/mL	97.4	68.0 – 127	307	240 – 375	663	531 – 795
Ferritin	ng/mL	64.3	43.1 – 85.6	148	97.8 – 197	371	244 – 497
Follicle Stimulating Hormone (FSH)	mIU/mL	6.56	5.08 – 8.04	24.0	18.9 – 29.0	53.0	41.9 – 64.2
hCG	mIU/mL	5.55	3.62 – 7.47	28.7	20.4 – 37.0	283	205 – 361
Immunoglobulin E (IgE) (Total)	IU/mL	322	179 – 465	82.1	51.7 – 112	105	64.1 – 147
Luteinizing Hormone (LH)	mIU/mL	1.21	0.968 – 1.45	16.2	12.9 – 19.4	59.1	46.9 – 71.4
Progesterone	ng/mL	0.522	<0.250 – 0.944	11.7	8.46 – 15.0	34.5	25.4 – 43.6
Prolactin	ng/mL	5.12	3.07 – 7.17	19.3	14.0 – 24.6	40.2	30.1 – 50.2
PSA (Total)	ng/mL	1.08	0.761 – 1.40	3.75	2.79 – 4.70	18.7	14.1 – 23.2
T3 (Free)	pg/mL	2.10	1.35 – 2.85	6.45	4.68 – 8.22	14.8	11.2 – 18.5
T3 (Total)	ng/mL	0.693	0.476 – 0.910	1.94	1.53 – 2.36	3.40	2.76 – 4.04

**INSTRUMENT (1)**

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>BIOMÉRIEUX VIDAS (continued)</b>							
T4 (Free) (FT4N) (30459)	ng/dL	0.881	0.581 – 1.18	2.39	1.84 – 2.93	5.63	4.54 – 6.72
T4 (Total)	µg/dL	5.45	4.13 – 6.77	10.4	8.14 – 12.7	18.5	14.7 – 22.3
Thyroid Stimulating Hormone (TSH)	µIU/mL	0.415	0.144 – 0.686	6.35	4.94 – 7.75	39.9	31.8 – 47.9
<b>DIASORIN LIAISON (2)</b>							
Aldosterone	ng/dL	13.1	9.19 – 17.1	26.1	18.3 – 34.0	68.9	48.3 – 89.6
CEA	ng/mL	2.71	1.78 – 3.64	17.8	13.2 – 22.5	40.9	29.9 – 51.9
Cortisol	µg/dL	2.52	1.87 – 3.17	24.0	18.1 – 29.9	35.8	24.6 – 47.1
C-Peptide	ng/mL	0.602	0.378 – 0.826	6.05	4.35 – 7.75	9.15	6.93 – 11.4
Estradiol (II Gen) (310680)	pg/mL	79.6	53.3 – 106	172	121 – 224	255	179 – 332
Follicle Stimulating Hormone (FSH) (US only)	mIU/mL	7.61	5.40 – 9.82	30.1	21.4 – 38.8	68.7	51.5 – 85.9
Luteinizing Hormone (LH) (US only)	mIU/mL	1.39	0.847 – 1.93	25.7	21.8 – 29.6	102	83.2 – 121
Progesterone (II Gen) (310690)	ng/mL	0.600	0.240 – 0.970	9.25	6.48 – 12.0	21.0	14.1 – 27.9
Prolactin (xt)	µIU/mL	162	130 – 194	477	381 – 573	1100	880 – 1320
T3 (Free)	pg/mL	2.60	2.02 – 3.18	8.86	7.45 – 10.3	22.3	18.8 – 25.8
T4 (Free) (US only)	ng/dL	0.905	0.749 – 1.06	2.72	2.11 – 3.33	7.55	5.83 – >7.70
Testosterone	ng/mL	0.560	0.360 – 0.760	1.70	1.09 – 2.31	4.56	3.19 – 5.93
<b>DIASORIN LIAISON XL (2)</b>							
Aldosterone	ng/dL	12.3	8.63 – 16.0	25.3	17.7 – 32.9	68.5	48.0 – 89.1
CEA	ng/mL	2.78	2.36 – 3.20	18.3	15.6 – 21.0	41.9	35.6 – 48.2
Cortisol	µg/dL	1.91	1.62 – 2.20	23.5	20.0 – 27.0	38.8	33.0 – 44.6
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate) (DHEA-Sulfate)	µg/dL	58.6	41.0 – 76.2	145	101 – 188	516	334 – 697
Estradiol (II Gen) (310680)	pg/mL	76.6	51.3 – 102	166	116 – 216	254	178 – 330
Follicle Stimulating Hormone (FSH) (US only)	mIU/mL	7.92	6.34 – 9.50	32.7	26.1 – 39.3	68.1	54.5 – 81.7
hCG (XL hCG) (REF 312321)	mIU/mL	4.94	3.16 – 6.72	32.7	27.8 – 37.6	233	198 – 268
Luteinizing Hormone (LH) (US Only)	mIU/mL	1.92	1.63 – 2.21	28.1	23.9 – 32.3	110	93.5 – >125
Progesterone (II Gen) (310690)	ng/mL	0.560	0.220 – 0.890	9.08	6.36 – 11.8	21.5	14.4 – 28.6
Prolactin (xt)	µIU/mL	165	120 – 210	458	366 – 550	1040	768 – 1310
T3 (Free)	pg/mL	2.50	2.13 – 2.88	9.37	7.96 – 10.8	23.8	20.2 – 27.4
T4 (Free) (US only)	ng/dL	0.971	0.810 – 1.13	2.91	2.47 – 3.35		7.40 – >7.70
T4 (Total)	µg/dL	3.91	3.13 – 4.69	6.49	5.19 – 7.79	11.9	9.52 – 14.3
Testosterone	ng/mL	0.480	0.310 – 0.650	1.50	1.05 – 1.95	3.76	2.63 – 4.89
Testosterone XT	ng/mL	0.544	0.380 – 0.710	1.89	1.32 – 2.46	4.49	3.14 – 5.83
Thyroid Stimulating Hormone (TSH)	µIU/mL	0.655	0.522 – 0.789	7.75	6.59 – 8.91	42.7	36.3 – 49.1
<b>DiaSorin LIAISON XS (2)</b>							
ACTH (313221)	pg/mL	102	64.8 – 139	135	108 – 162	260	176 – 344
Aldosterone	ng/dL	12.3	8.58 – 15.9	25.0	17.5 – 32.4	64.7	45.3 – 84.1
Cortisol (313261)	µg/dL	1.85	1.54 – 2.16	23.5	20.0 – 27.0	37.6	32.0 – 43.2
Ferritin (313551)	ng/mL	77.1	65.5 – 88.7	182	155 – 209	468	394 – 542
Follicle Stimulating Hormone (FSH) (312251)	mIU/mL	9.41	8.00 – 10.8	38.8	33.0 – 44.6	87.8	74.6 – 101
hCG (XL hCG) (312321)	mIU/mL	4.35	3.44 – 5.26	31.2	26.5 – 35.9	230	196 – 265
Luteinizing Hormone (LH) (312201)	mIU/mL	1.76	1.36 – 2.16	30.2	25.7 – 34.7	120	102 – 138
Prolactin (xt) (312171)	mIU/L	159	110 – 208	477	381 – 573	1110	888 – 1330
T3 (Free) (311531)	pg/mL	2.48	2.11 – 2.85	8.46	7.19 – 9.73	20.7	17.6 – 23.8
T3 (Total) (311311)	ng/dL	67.6	54.1 – 81.1	160	128 – 192	299	239 – 359
T4 (Free) (311611)	ng/dL	0.882	0.750 – 1.01	2.64	2.24 – 3.04	8.08	6.87 – 9.29
T4 (Total) (311411)	µg/dL	3.92	3.14 – 4.70	6.37	5.09 – 7.65	11.1	8.88 – 13.3
Thyroid Stimulating Hormone (TSH) (311211)	µIU/mL	0.586	0.474 – 0.698	6.50	5.17 – 7.83	40.7	31.0 – 50.5
<b>IDS-iSYS (2)</b>							
Human Growth Hormone (hGH) (IS-3700)	ng/mL	2.51	1.83 – 3.18	8.60	6.54 – 10.7	14.7	11.6 – 17.8
<b>ORTHO VITROS MICROSLIDE SERIES</b>							
Acetaminophen (ACET)	µg/mL	10.8	<10.0 – 13.4	40.1	32.4 – 47.8	130	109 – 150
Carbamazepine (CRBM)	µg/mL	▲		▲		▲	
Digoxin (DGXN)	ng/mL	▲		▲		▲	
Iron (Fe)	µg/dL	42.5	32.2 – 52.7	81.9	71.5 – 92.3	75.7	65.4 – 85.9
Lithium (Li)	mmol/L	0.744	0.558 – 0.929	1.67	1.44 – 1.91	2.44	2.16 – 2.71

**INSTRUMENT (1)**

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>ORTHO VITROS MICROSLIDE SERIES (continued)</b>							
Phenytoin (PHYT)	µg/mL	6.05	4.76 – 7.34	11.8	9.45 – 14.3	21.7	17.4 – 25.9
Salicylate (SALI)	mg/dL	5.14	4.32 – 5.96	18.1	16.0 – 20.2	36.8	32.8 – >40.0
Theophylline (THEO)	µg/mL	4.77	2.88 – 6.66	14.5	11.5 – 17.4	28.7	24.1 – 33.2
<b>ORTHO VITROS MICROTIP SERIES</b>							
Gentamicin (GENT)	µg/mL	2.44	2.01 – 2.87	5.00	4.03 – 5.97	7.00	5.61 – 8.39
Tobramycin (TOBRA)	µg/mL	§		§		§	
Valproic Acid (VALP)	µg/mL	33.6	22.2 – 45.0	75.6	57.8 – 93.4	112	88.9 – 136
Vancomycin (VANC)	µg/mL	6.39	<5.00 – 8.06	15.4	12.5 – 18.2	27.6	23.3 – 32.0
<b>ORTHO VITROS MICROWELL SERIES</b>							
AFP (2) (3)	IU/mL	15.0	11.7 – 18.3	79.2	61.9 – 96.5	172	130 – 214
CEA	ng/mL	2.14	1.67 – 2.61	17.3	14.6 – 20.0	39.8	33.8 – 45.7
Cortisol (Cort)	µg/dL	2.94	2.30 – 3.58	18.6	15.1 – 22.2	27.5	22.3 – 32.7
C-Peptide (2)	ng/mL	0.416	0.295 – 0.537	5.49	4.11 – 6.87	8.39	6.28 – 10.5
Estradiol (E2) (2)	pg/mL	87.9	33.8 – 142	321	203 – 440	721	483 – 959
Ferritin (Ferr)	ng/mL	55.5	42.7 – 68.2	129	101 – 157	341	271 – 412
Folate (2)	ng/mL	2.76	1.61 – 3.91	8.78	5.88 – 11.7	15.4	10.0 – >20.0
Folate (Fol/RCFol)	ng/mL	2.85	1.56 – 4.13	10.5	6.74 – 14.3	18.1	11.9 – >20.0
Follicle Stimulating Hormone (FSH) (2)	mIU/mL	4.71	3.54 – 5.88	19.8	16.1 – 23.6	41.2	32.3 – 50.1
hCG (B-hCG)	mIU/mL	6.60	4.45 – 8.76	25.7	20.7 – 30.7	251	212 – 291
Insulin (2) (3)	µIU/mL	14.7	9.33 – 20.1	58.5	40.6 – 76.4	171	119 – 223
Luteinizing Hormone (LH)	mIU/mL	0.798	0.398 – 1.20	19.3	16.0 – 22.5	64.9	54.5 – 75.4
Progesterone (Prog) (2)	ng/mL	0.657	0.362 – 0.953	9.84	7.33 – 12.4	27.1	20.8 – 33.3
Prolactin (Prol)	ng/mL	6.24	4.76 – 7.72	17.6	14.4 – 20.7	37.9	31.7 – 44.1
PSA (Total) (PSA) (680 1756)	ng/mL	0.819	0.656 – 0.982	2.54	2.06 – 3.02	11.5	9.35 – 13.7
T3 (Free) (FT3 II) (2)	pg/mL	4.09	2.82 – 5.37	12.7	10.3 – 15.1	>22.7	
T3 (Free) (FT3) (2)	pg/mL	4.18	2.87 – 5.48	14.8	12.0 – 17.6	>22.7	
T3 (Total) (TT3) (2)	nmol/L	1.31	1.00 – 1.62	3.22	2.64 – 3.80	6.05	5.03 – 7.07
T3 (Total) (TT3-2) (2)	nmol/L	§		§		§	
T3 Uptake/T Uptake (T3U) (2)	% Uptake	40.6	33.9 – 47.3	52.2	43.0 – 61.4	>65.0	
T3 Uptake/T Uptake (T3U-2) (2)	% Uptake	39.5	30.7 – 48.3	52.5	40.8 – 64.2	>65.0	
T4 (Free) (FT4)	ng/dL	1.21	0.939 – 1.47	4.75	4.03 – 5.46	>6.98	
T4 (Total) (TT4) (2)	µg/dL	4.25	3.45 – 5.05	9.61	7.91 – 11.3	17.1	14.1 – 20.0
Testosterone (2)	ng/dL	108	68.3 – 147	432	300 – 568	1265	905 – 1625
Thyroid Stimulating Hormone (TSH)	µIU/mL	0.252	0.142 – 0.362	4.65	3.84 – 5.45	29.3	24.5 – 34.1
Vitamin B12	pg/mL	326	257 – 394	461	355 – 567	654	489 – 819
<b>PerkinElmer AUTODELFIA (2)</b>							
hCG	mIU/mL	<10.0		26.6	20.0 – 33.0	250	200 – 300
Thyroid Stimulating Hormone (TSH) (hTSH Ultra)	µIU/mL	§		§		§	
<b>ROCHE / HITACHI COBAS C SYSTEMS</b>							
Acetaminophen (ACET2) (REF 06769942190)	µg/mL	10.0	8.10 – 11.9	32.9	27.8 – 38.1	103	87.9 – 119
Amikacin	µg/mL	5.15	4.01 – 6.29	12.0	10.4 – 13.6	26.7	24.1 – 29.3
Carbamazepine (CARB4)	µg/mL	2.46	1.83 – 3.09	7.63	6.37 – 8.90	14.0	11.9 – 16.0
Digoxin	ng/mL	0.756	0.465 – 1.05	2.08	1.68 – 2.48	3.48	2.97 – 3.99
Ferritin	ng/mL	82.0	66.6 – 97.3	162	129 – 196	372	291 – 454
Gentamicin (QMS)	µg/mL	▲		▲		▲	
Iron	µg/dL	31.8	13.8 – 49.7	83.9	65.9 – 102	77.0	59.0 – 94.9
Iron (TIBC)	µg/dL	267	234 – 300	242	211 – 273	240	208 – 271
Lithium	mg/dL	0.345	0.219 – 0.471	0.839	0.690 – 0.987	1.30	1.12 – 1.48
Phenobarbital	µg/mL	8.77	6.69 – 10.8	22.3	18.7 – 25.9	48.6	42.1 – 55.1
Phenytoin	µg/mL	5.80	4.36 – 7.24	12.6	10.1 – 15.1	23.0	18.9 – 27.0
Salicylate	mg/dL	3.69	3.13 – 4.24	15.3	13.7 – 16.9	42.9	38.7 – 47.0
Theophylline	µg/mL	4.27	3.45 – 5.09	13.1	11.2 – 15.0	25.5	22.1 – 28.9
Tobramycin	µg/mL	0.958	0.672 – 1.24	2.70	2.25 – 3.14	5.79	5.07 – 6.52
Valproic Acid	µg/mL	30.8	23.2 – 38.4	73.2	58.6 – 87.8	104	84.3 – 124
Vancomycin (VANC3)	µg/mL	5.48	<4.00 – 7.49	16.6	13.0 – 20.1	31.2	25.6 – 36.8

**INSTRUMENT (1)**

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>ROCHE ELECSYS / COBAS e SYSTEMS</b>							
ACTH (4)	pg/mL	71.3	28.6 – 114	68.9	27.6 – 110	144	62.0 – 227
AFP	ng/mL	18.7	13.8 – 23.5	102	79.0 – 124	221	173 – 270
Calcitonin	pg/mL	22.9	9.18 – 36.6	181	127 – 236	446	321 – 570
CEA	ng/mL	2.21	1.65 – 2.76	14.5	12.2 – 16.9	31.1	26.3 – 35.9
Cortisol (II)	µg/dL	3.37	2.62 – 4.13	18.4	15.1 – 21.8	26.6	21.8 – 31.4
C-Peptide	ng/mL	0.598	0.344 – 0.853	5.11	4.18 – 6.04	8.06	6.65 – 9.46
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate) (DHEA-Sulfate)	µg/dL	76.4	56.9 – 95.9	197	154 – 241	654	519 – 789
Digoxin	ng/mL	0.697	0.517 – 0.877	1.99	1.65 – 2.33	3.54	3.01 – 4.07
Estradiol (III)	pg/mL	88.4	66.4 – 110	191	158 – 223	325	279 – 371
Ferritin	ng/mL	90.8	73.7 – 108	198	160 – 236	442	357 – 528
Folate (Fol III) (USA only)	ng/mL	2.27	<2.00 – 3.34	7.07	5.01 – 9.12	12.6	9.42 – 15.8
Follicle Stimulating Hormone (FSH)	mIU/mL	5.79	4.81 – 6.78	22.4	18.5 – 26.4	44.7	36.8 – 52.7
hCG (+ β)	mIU/mL	4.49	3.45 – 5.53	25.1	20.6 – 29.6	209	173 – 245
hCG (STAT)	mIU/mL	2.99	2.18 – 3.81	23.2	19.0 – 27.4	213	177 – 250
Human Growth Hormone (hGH)	ng/mL	2.98	1.95 – 4.00	8.13	6.14 – 10.1	13.6	10.6 – 16.7
Immunoglobulin E (IgE)	ng/mL	904	647 – 1160	261	138 – 383	332	195 – 468
Insulin	µIU/mL	13.3	10.6 – 16.1	61.5	51.3 – 71.6	178	150 – 207
Luteinizing Hormone (LH)	mIU/mL	1.80	1.40 – 2.21	20.7	17.5 – 24.0	67.2	57.1 – 77.3
Progesterone (III)	ng/mL	0.793	0.498 – 1.09	10.9	9.00 – 12.8	27.5	22.9 – 32.0
Prolactin	ng/mL	8.31	6.90 – 9.72	23.1	19.2 – 27.0	55.1	45.8 – 64.4
Prostate Specific Antigen, Free (fPSA) (Cobas e411/e601/602)	ng/mL	0.486	0.410 – 0.562	2.08	1.74 – 2.41	10.0	8.41 – 11.7
Prostate Specific Antigen, Free (fPSA) (Cobas e801/e402)	ng/mL	0.492	0.415 – 0.569	2.09	1.75 – 2.42	10.1	8.48 – 11.7
Prostate Specific Antigen, Total (e411/e601/602) (tPSA)	ng/mL	0.954	0.788 – 1.12	3.52	2.96 – 4.08	17.2	14.5 – 19.8
Prostate specific Antigen, Total (tPSA) (Cobas e801/e402)	ng/mL	0.885	0.730 – 1.04	3.27	2.74 – 3.79	16.0	13.5 – 18.5
T3 Total	ng/mL	1.00	0.757 – 1.25	2.33	1.83 – 2.83	3.96	3.18 – 4.74
T3 Uptake/T-Uptake	TBI	0.963	0.825 – 1.10	0.688	0.514 – 0.861	0.248	<0.200 – 0.477
T3 (Free) (III)	pg/mL	2.64	2.14 – 3.14	7.45	6.35 – 8.55	16.3	14.2 – 18.5
T4 Total	µg/dL	4.73	3.70 – 5.76	8.98	7.08 – 10.9	15.0	11.9 – 18.1
T4 (Free) (II)	ng/dL	▲		▲		▲	
T4 (Free) (IV)	ng/dL	1.01	0.790 – 1.23	2.47	1.91 – 3.04	6.05	4.68 – 7.43
Testosterone (II)	ng/mL	1.49	1.13 – 1.85	3.83	3.11 – 4.55	9.34	7.77 – 10.9
Thyroid Stimulating Hormone (TSH)	µIU/mL	0.513	0.457 – 0.569	6.05	5.24 – 6.85	36.8	31.8 – 41.8
Vitamin B12 (II) (cobas e601/e602/e411)	pg/mL	397	307 – 487	529	425 – 632	730	604 – 855
Vitamin B12 (II) (cobas e801/e402)	pg/mL	343	259 – 427	445	351 – 540	603	491 – 715
<b>ROCHE HITACHI / MODULAR</b>							
Iron	µg/dL	31.8	13.8 – 49.7	83.9	65.9 – 102	77.0	59.0 – 94.9
Phenobarbital	µg/mL	8.77	6.69 – 10.8	22.3	18.7 – 25.9	48.6	42.1 – 55.1
Phenytoin	µg/mL	5.80	4.36 – 7.24	12.6	10.1 – 15.1	23.0	18.9 – 27.0
Theophylline	µg/mL	4.27	3.45 – 5.09	13.1	11.2 – 15.0	25.5	22.1 – 28.9
Tobramycin	µg/mL	0.958	0.672 – 1.24	2.70	2.25 – 3.14	5.79	5.07 – 6.52
Valproic Acid	µg/mL	30.8	23.2 – 38.4	73.2	58.6 – 87.8	104	84.3 – 124
<b>SIEMENS ADVIA CENTAUR CP</b>							
AFP	ng/mL	19.8	14.6 – 25.0	98.1	75.2 – 121	229	176 – 281
Androstenedione	ng/mL	0.687	0.429 – 0.946	1.39	0.881 – 1.90	2.18	1.39 – 2.97
CEA	ng/mL	2.21	1.43 – 2.98	16.0	12.5 – 19.4	38.8	31.0 – 46.6
Cortisol (COR) (Rgt. Lots 019361-019366)	µg/dL	3.27	1.80 – 4.74	21.6	15.1 – 28.1	31.3	22.2 – 40.5
Cortisol (Rgt. Lot 367 and higher)	µg/dL	3.27	1.80 – 4.74	19.0	12.5 – 25.5	26.0	16.8 – 35.1
C-Peptide (CpS)	ng/mL	0.473	0.281 – 0.665	4.70	3.93 – 5.47	7.65	6.47 – 8.84
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate) (DHEAS)	µg/dL	71.2	48.3 – 94.0	151	107 – 195	475	346 – 604
Digoxin (DIG)	ng/mL	0.772	0.592 – 0.951	2.22	1.81 – 2.62	3.97	3.28 – 4.65
Estradiol (eE2)	pg/mL	82.0	47.4 – 117	265	195 – 335	584	452 – 715
Ferritin (FER)	ng/mL	57.5	39.9 – 75.1	157	109 – 205	402	280 – 524
Follicle Stimulating Hormone (FSH)	mIU/mL	5.64	3.70 – 7.57	27.3	20.5 – 34.1	61.2	46.8 – 75.6
Follicle Stimulating Hormone (FSH) (Rgt lot 033280 & above, Cal CB13 & above)	mIU/mL	5.87	3.89 – 7.86	27.8	20.9 – 34.6	62.1	47.5 – 76.7

## INSTRUMENT (1)

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>SIEMENS ADVIA CENTAUR CP (continued)</b>							
hCG (ThCG)	mIU/mL	7.14	4.73 – 9.54	32.0	24.7 – 39.3	244	198 – 290
Immunoglobulin E (IgE) (tIgE)	IU/mL	356	246 – 466	90.5	60.4 – 120	123	83.3 – 163
Insulin (IRI)	µIU/mL	14.2	9.65 – 18.7	60.7	45.0 – 76.3	176	132 – 220
Luteinizing Hormone (LH)	mIU/mL	1.41	0.955 – 1.86	18.3	14.2 – 22.3	63.2	49.4 – 77.0
Progesterone (PRGE)	ng/mL	0.750	0.353 – 1.15	8.99	6.73 – 11.2	19.3	14.7 – 23.9
Prolactin (PRL)	ng/mL	5.36	4.08 – 6.64	13.8	10.2 – 17.4	32.2	23.6 – 40.8
PSA (Total) (PSA)	ng/mL	0.851	0.658 – 1.04	2.88	2.21 – 3.54	14.7	11.3 – 18.2
PSA, Complexed (cPSA)	ng/mL	0.322	0.245 – 0.398	0.847	0.619 – 1.08	3.96	2.75 – 5.17
T3 (Free) (FT3)	pg/mL	2.71	2.31 – 3.11	6.82	5.71 – 7.93	14.2	11.8 – 16.5
T3 (Total) (T3)	ng/mL	0.889	0.619 – 1.16	2.17	1.56 – 2.78	4.06	2.94 – 5.18
T3 Uptake/T Uptake (TUp)	T Uptake Unit	1.25	1.02 – 1.48	1.50	1.23 – 1.76	1.83	1.50 – 2.15
T4 (Free) (FT4)	ng/dL	0.683	0.515 – 0.850	1.71	1.34 – 2.08	3.98	3.16 – 4.79
T4 (Total) (T4)	µg/dL	5.03	3.59 – 6.47	10.6	7.99 – 13.3	18.5	14.2 – 22.9
Testosterone II (TSTII)	ng/dL	153	92.3 – 214	340	234 – 447	797	577 – 1017
Thyroid Stimulating Hormone (TSH)	µIU/mL	0.452	0.278 – 0.625	6.37	4.08 – 8.66	36.9	23.6 – 50.1
Thyroid Stimulating Hormone (TSH) (TSH3-UL)	µIU/mL	0.356	0.217 – 0.495	4.65	2.97 – 6.33	30.2	19.4 – 41.0
Thyroid Stimulating Hormone (TSH) (TSH3ULII)	µIU/mL	0.411	0.248 – 0.575	5.60	3.59 – 7.62	34.9	22.5 – 47.4
Vitamin B12 (VB12)	pg/mL	364	249 – 479	501	357 – 644	763	563 – 963
<b>SIEMENS ADVIA CENTAUR SYSTEMS</b>							
AFP	ng/mL	19.9	15.2 – 24.6	102	82.0 – 122	228	184 – 272
Androstenedione	ng/mL	0.679	0.312 – 1.05	1.41	0.795 – 2.02	2.12	1.27 – 2.97
CEA	ng/mL	2.26	1.47 – 3.04	16.6	13.0 – 20.1	39.6	31.6 – 47.6
Cortisol (COR) (Rgt. Lots 019361-019366)	µg/dL	2.98	2.03 – 3.92	19.6	14.3 – 24.9	28.3	20.8 – 35.9
Cortisol (Rgt. Lot 367 and higher)	µg/dL	2.98	2.03 – 3.92	16.3	11.0 – 21.6	22.9	15.3 – 30.5
C-Peptide (CpS)	ng/mL	0.469	0.167 – 0.770	4.83	3.37 – 6.29	7.44	5.28 – 9.60
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate) (DHEAS)	µg/dL	67.3	42.0 – 92.6	141	96.7 – 186	457	331 – 584
Digoxin (DIG)	ng/mL	0.894	0.639 – 1.15	2.19	1.72 – 2.66	3.93	3.16 – 4.69
Estradiol (eE2)	pg/mL	88.7	63.3 – 114	249	201 – 298	545	453 – 637
Ferritin (FER)	ng/mL	56.3	44.3 – 68.2	151	116 – 186	394	299 – 488
Folate (FOL)	ng/mL	2.09	0.986 – 3.19	6.26	3.69 – 8.83	10.9	6.66 – 15.0
Follicle Stimulating Hormone (FSH)	mIU/mL	6.00	4.65 – 7.34	27.8	22.5 – 33.2	63.1	51.3 – 74.9
Follicle Stimulating Hormone (FSH) (Rgt lot 033280 & above, Cal CB13 & above)	mIU/mL	5.87	4.56 – 7.17	27.1	21.9 – 32.2	60.7	49.4 – 71.9
hCG (ThCG)	mIU/mL	7.11	3.92 – 10.3	32.0	25.1 – 38.9	225	189 – 260
Immunoglobulin E (IgE) (tIgE)	IU/mL	383	300 – 466	97.3	77.6 – 117	127	101 – 154
Insulin (IRI)	µIU/mL	15.1	11.4 – 18.9	65.6	49.6 – 81.6	189	143 – 235
Luteinizing Hormone (LH)	mIU/mL	1.27	0.981 – 1.55	18.2	14.5 – 21.9	63.5	50.6 – 76.4
Progesterone (PRGE)	ng/mL	0.861	0.424 – 1.30	9.49	7.09 – 11.9	20.2	15.4 – 25.1
Prolactin (PRL)	ng/mL	5.25	4.32 – 6.18	15.0	12.0 – 17.9	33.6	26.7 – 40.4
PSA (Total) (PSA)	ng/mL	0.869	0.715 – 1.02	2.94	2.39 – 3.48	15.3	12.4 – 18.2
PSA, Complexed (cPSA)	ng/mL	0.376	0.283 – 0.469	0.944	0.740 – 1.15	4.25	3.40 – 5.11
T3 (Free) (FT3)	pg/mL	2.65	2.30 – 3.00	6.67	5.73 – 7.60	13.2	11.2 – 15.1
T3 (Total) (T3)	ng/mL	0.825	0.567 – 1.08	1.99	1.53 – 2.44	3.61	2.88 – 4.34
T3 Uptake/T Uptake (TUp) (Unit)	T Uptake Unit	1.13	0.918 – 1.35	1.42	1.16 – 1.68	1.66	1.37 – 1.95
T4 (Free) (FT4)	ng/dL	0.729	0.550 – 0.909	1.77	1.38 – 2.16	3.94	3.11 – 4.77
T4 (Total) (T4)	µg/dL	4.99	3.68 – 6.30	10.4	8.00 – 12.8	18.3	14.3 – 22.3
Testosterone (TSTII)	ng/dL	177	120 – 233	373	256 – 489	827	572 – 1082
Thyroid Stimulating Hormone (TSH)	µIU/mL	0.499	0.304 – 0.693	6.42	4.11 – 8.72	41.9	27.1 – 56.8
Thyroid Stimulating Hormone (TSH) (TSH3-UL)	µIU/mL	0.452	0.274 – 0.630	5.45	3.49 – 7.40	34.0	21.8 – 46.1
Thyroid Stimulating Hormone (TSH) (TSH3ULII)	µIU/mL	0.388	0.220 – 0.557	5.49	3.35 – 7.62	35.1	21.5 – 48.7
Vitamin B12 (VB12)	pg/mL	373	257 – 489	541	389 – 693	786	581 – 991
<b>SIEMENS ADVIA CHEMISTRY SYSTEMS</b>							
Acetaminophen (ACET)	mg/dL	1.00	0.788 – 1.21	3.30	2.86 – 3.74	10.4	9.26 – 11.5
Carbamazepine (CARB_2)	µg/mL	2.62	1.61 – 3.62	7.43	5.63 – 9.24	12.2	9.58 – 14.8
Digoxin (DIG)	ng/mL	0.472	0.249 – 0.694	1.88	1.39 – 2.36	3.14	2.41 – 3.88

## INSTRUMENT (1)

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>SIEMENS ADVIA CHEMISTRY SYSTEMS (continued)</b>							
Ferritin (FRT)	ng/mL	64.8	54.9 – 74.8	132	114 – 151	311	270 – 353
Gentamicin (GENT_2)	µg/mL	2.25	1.62 – 2.88	4.45	3.53 – 5.37	5.88	4.75 – 7.02
Immunoglobulin A (IgA) (IGA_2)	mg/dL	178	143 – 213	159	126 – 191	154	123 – 185
Immunoglobulin G (IgG) (IGG_2)	mg/dL	850	732 – 969	775	654 – 897	758	635 – 882
Immunoglobulin M (IgM) (IGM_2)	mg/dL	68.1	57.6 – 78.6	66.1	55.7 – 76.4	65.1	54.9 – 75.4
Iron (IRON_2)	µg/dL	31.1	14.6 – 47.6	79.7	63.2 – 96.2	72.4	55.9 – 89.0
Lithium (LITH/LITH_2)	mEq/L	0.445	0.315 – 0.575	1.22	1.01 – 1.43	1.93	1.64 – 2.21
Phenobarbital (PHNB_2)	µg/mL	8.38	6.20 – 10.6	21.5	16.7 – 26.3	47.1	36.5 – 57.6
Phenytoin (PHNY_2)	µg/mL	6.36	4.35 – 8.38	12.1	8.43 – 15.7	20.7	14.6 – 26.9
Salicylate (SAL)	mg/dL	2.53	1.49 – 3.57	14.2	11.5 – 16.9	39.4	32.8 – 46.1
Theophylline (THEO_2)	µg/mL	4.32	2.92 – 5.72	13.5	9.93 – 17.1	24.2	18.0 – 30.4
Tobramycin (TOB_2)	µg/mL	0.867	0.551 – 1.18	2.53	2.04 – 3.02	5.42	4.62 – 6.21
Valproic Acid (VPA_2)	µg/mL	34.0	27.4 – 40.6	80.7	65.0 – 96.3	117	94.1 – 140
Vancomycin (VANC_2)	µg/mL	6.18	3.35 – 9.02	16.2	11.3 – 21.0	27.9	20.7 – 35.1
<b>SIEMENS BN SERIES NEPHELOMETERS</b>							
Immunoglobulin A (IgA)	mg/dL	210	184 – 237	172	146 – 198	176	149 – 202
Immunoglobulin E (IgE)	IU/mL	361	315 – 406	93.8	78.8 – 109	122	104 – 140
Immunoglobulin G (IgG)	mg/dL	970	819 – 1121	835	689 – 981	868	716 – 1019
Immunoglobulin M (IgM)	mg/dL	85.4	76.0 – 94.9	70.9	61.5 – 80.2	72.0	62.6 – 81.4
<b>SIEMENS DIMENSION SERIES</b>							
Acetaminophen (ACTM)	µg/mL	▲		▲		▲	
Carbamazepine (CRBM)	µg/mL	2.68	2.08 – 3.29	7.57	6.37 – 8.77	13.2	11.3 – 15.1
Digoxin (DGNA)	ng/mL	▲		▲		▲	
Ferritin (FERR)	ng/mL	▲		▲		▲	
Folate (FOLA) (EXL LOCI MODULE) (RF644)	ng/mL	2.08	1.33 – 2.84	6.15	4.40 – 7.90	10.5	7.68 – 13.3
Gentamicin (GENT)	µg/mL	▲		▲		▲	
hCG	mIU/mL	7.67	5.74 – 9.59	26.3	21.6 – 31.1	250	211 – 288
Immunoglobulin A (IgA)	mg/dL	§		§		§	
Immunoglobulin G (IgG)	mg/dL	§		§		§	
Immunoglobulin M (IgM)	mg/dL	§		§		§	
Iron	µg/dL	§		§		§	
Iron (TIBC)	µg/dL	263	231 – 294	251	219 – 283	245	213 – 277
Lithium (LI)	mmol/L	0.408	0.253 – 0.563	1.16	0.967 – 1.35	1.85	1.62 – 2.08
Phenobarbital (PHNO)	µg/mL	§		§		§	
Phenytoin (PTN)	µg/mL	6.38	4.53 – 8.23	14.1	11.3 – 16.9	27.0	22.7 – 31.4
PSA (Free) (FPSA)	ng/mL	0.466	0.233 – 0.699	1.96	1.50 – 2.42	10.1	8.25 – 12.0
PSA (Total) (TPSA)	ng/mL	0.975	0.716 – 1.23	3.48	2.79 – 4.17	17.9	14.7 – 21.1
Salicylate (SAL)	mg/dL	▲		▲		▲	
T3 (Free) (FT3)	pg/mL	2.20	1.69 – 2.71	7.59	6.01 – 9.16	17.9	15.1 – 20.7
T4 (Free) (EXL LOCI Module)	ng/dL	▲		▲		▲	
Theophylline (THEO)	µg/mL	4.40	3.49 – 5.30	13.7	11.3 – 16.2	26.2	21.6 – 30.8
Thyroid Stimulating Hormone (TSH)	µIU/mL	0.357	0.260 – 0.455	5.55	3.97 – 7.13	31.5	22.1 – 40.8
Thyroid Stimulating Hormone (TSH) (EXL LOCI Module) (TSHL)	µIU/mL	▲		▲		▲	
Tobramycin (TOBR)	µg/mL	§		§		§	
Valproic Acid (VALP)	µg/mL	34.5	28.3 – 40.7	78.6	67.0 – 90.2	110	94.7 – 126
Vancomycin (VANC)	µg/mL	▲		▲		▲	
Vitamin B12 (VB12) (EXL LOCI MODULE) (RF642)	pg/mL	339	260 – 418	469	380 – 557	671	565 – 777
<b>SIEMENS DIMENSION VISTA SYSTEMS</b>							
Acetaminophen (ACTM)	µg/mL	14.4	10.8 – 18.0	41.4	36.0 – 46.7	120	109 – 130
AFP	ng/mL	17.4	13.2 – 21.5	90.9	73.2 – 109	198	160 – 235
Amikacin	µg/mL	4.96	4.20 – 5.72	11.9	9.69 – 14.1	23.8	18.4 – 29.3
Caffeine	µg/mL	1.80	1.12 – 2.48	6.13	4.52 – 7.74	14.1	10.7 – 17.4
Carbamazepine (CRBM)	µg/mL	2.53	2.07 – 3.00	7.35	6.32 – 8.38	12.7	11.0 – 14.4
CEA	ng/mL	2.01	1.71 – 2.31	16.6	14.7 – 18.5	37.7	33.5 – 41.9
Digoxin (DGXN)	ng/mL	0.750	0.519 – 0.981	2.04	1.59 – 2.49	3.68	2.95 – 4.42

**INSTRUMENT (1)**

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>SIEMENS DIMENSION VISTA SYSTEMS (continued)</b>							
Estradiol	pg/mL	77.0	57.0 – 96.9	203	173 – 234	384	339 – 429
Ferritin (FERR)	ng/mL	59.5	52.4 – 66.5	157	136 – 179	419	359 – 479
Folate (FOL)	ng/mL	2.17	1.43 – 2.92	5.26	3.96 – 6.56	9.17	7.17 – 11.2
Follicle Stimulating Hormone (FSH)	mIU/mL	5.59	4.35 – 6.83	21.8	17.6 – 25.9	42.3	34.4 – 50.1
Gentamicin (GENT)	µg/mL	2.02	1.58 – 2.46	4.38	3.69 – 5.06	6.22	5.35 – 7.10
hCG (Beta, BHCG)	mIU/mL	7.00	5.22 – 8.78	24.6	20.2 – 28.9	235	200 – 270
Immunoglobulin A (IgA)	mg/dL	205	179 – 231	170	144 – 196	171	144 – 197
Immunoglobulin E (IgE)	IU/mL	364	317 – 410	100	84.5 – 116	127	108 – 145
Immunoglobulin G (IgG)	mg/dL	957	839 – 1075	836	718 – 954	852	734 – 970
Immunoglobulin M (IgM)	mg/dL	87.3	63.6 – 111	74.0	51.9 – 96.1	71.0	49.2 – 92.7
Iron	µg/dL	32.0	20.1 – 44.0	81.7	68.9 – 94.6	74.6	62.1 – 87.2
Iron (TIBC)	µg/dL	269	241 – 298	263	235 – 291	258	230 – 286
Lidocaine (LIDO)	µg/mL	1.28	0.998 – 1.56	3.63	3.12 – 4.14	7.29	6.43 – 8.15
Lithium (LITH)	mmol/L	0.463	0.306 – 0.621	1.21	1.02 – 1.40	1.87	1.65 – 2.09
Luteinizing Hormone (LH)	mIU/mL	1.34	0.922 – 1.76	22.2	17.4 – 27.0	80.7	66.2 – 95.1
Phenobarbital (PHNO)	µg/mL	9.41	6.49 – 12.3	23.8	19.7 – 27.8	48.7	42.8 – 54.7
Phenytoin (PTN)	µg/mL	6.44	4.96 – 7.91	14.3	12.0 – 16.6	25.7	22.2 – 29.2
Progesterone (PROG)	ng/mL	§		§		§	
Prolactin (PRL)	ng/mL	6.02	4.59 – 7.44	18.7	14.7 – 22.7	47.1	37.5 – 56.7
PSA (Free) (FPSA)	ng/mL	0.438	0.299 – 0.576	1.90	1.40 – 2.40	9.72	7.29 – 12.2
PSA (Total) (TPSA)	ng/mL	0.855	0.626 – 1.08	3.15	2.53 – 3.77	15.5	12.8 – 18.1
Salicylate (SAL)	mg/dL	4.73	3.88 – 5.58	16.5	15.1 – 17.9	42.8	40.2 – 45.4
T3 (Free) (FT3)	pg/mL	2.02	0.993 – 3.04	7.25	5.51 – 9.00	17.1	14.8 – 19.4
T3 Uptake/T Uptake (% , TU)	% Uptake	32.2	26.9 – 37.5	39.1	32.2 – 45.9	45.0	36.9 – 53.2
T4 (Free) (FT4)	ng/dL	0.897	0.775 – 1.02	1.97	1.74 – 2.21	6.34	5.64 – 7.04
T4 (Total) (T4)	µg/dL	5.56	3.44 – 7.67	10.8	8.44 – 13.1	18.6	15.9 – 21.3
Theophylline (THEO)	µg/mL	4.55	3.67 – 5.43	13.9	11.8 – 16.1	25.9	22.1 – 29.8
Thyroid Stimulating Hormone (TSH)	µIU/mL	0.369	0.268 – 0.469	5.38	3.99 – 6.77	36.1	26.7 – 45.5
Tobramycin (TOBR)	µg/mL	0.516	<0.300 – 0.783	2.32	1.87 – 2.78	5.42	4.65 – 6.20
Tricyclic Antidepressants (TCA)	Qualitative	Negative		Positive		Positive	
Valproic Acid (VALP)	µg/mL	33.7	27.4 – 39.9	79.9	67.9 – 91.9	112	96.2 – 128
Vancomycin (VANC)	µg/mL	6.49	5.10 – 7.88	18.0	15.1 – 20.9	32.2	27.5 – 36.9
Vitamin B12 (VB12)	pg/mL	347	291 – 402	462	398 – 526	653	575 – 730
<b>SIEMENS IMMULITE / IMMULITE 1000</b>							
AFP	ng/mL	19.7	12.7 – 26.6	105	66.4 – 143	233	150 – >300
Androstenedione	ng/mL	1.22	0.560 – 1.87	3.35	1.96 – 4.73	6.35	3.94 – 8.76
CEA	ng/mL	2.19	1.05 – 3.34	17.6	12.7 – 22.6	39.7	29.2 – 50.2
Cortisol	µg/dL	2.78	1.59 – 3.97	17.4	12.3 – 22.6	25.1	17.9 – 32.4
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate)	µg/dL	59.5	36.9 – 82.2	146	95.7 – 195	486	328 – 644
Estradiol	pg/mL	107	67.1 – 147	261	180 – 342	549	391 – 708
Estriol (Free) (UE3)	ng/mL	1.25	0.600 – 1.90	4.87	3.24 – 6.50		7.79 – >11.2
Ferritin	ng/mL	67.4	51.2 – 83.7	140	102 – 178	359	256 – 462
Follicle Stimulating Hormone (FSH)	mIU/mL	6.49	5.19 – 7.78	27.2	21.5 – 32.9	55.8	45.0 – 66.5
hCG	mIU/mL	8.77	4.55 – 13.0	33.0	22.7 – 43.2	297	220 – 374
hCG (Turbo)	mIU/mL	9.45	5.06 – 13.8	34.0	23.4 – 44.5	341	255 – 426
Human Growth Hormone (hGH) (LKGRH)	ng/mL	2.73	1.71 – 3.74	7.22	5.37 – 9.07	12.6	9.72 – 15.5
Immunoglobulin E (IgE) (Rgt. Lots 401+)	IU/mL	368	259 – 477	99.9	74.3 – 125	132	96.2 – 167
Luteinizing Hormone (LH)	mIU/mL	1.56	1.12 – 2.01	19.5	15.0 – 24.0	58.6	45.3 – 71.9
Progesterone (LKPW1)	ng/mL	0.861	0.439 – 1.28	9.98	7.01 – 13.0	23.9	17.0 – 30.8
Prolactin	ng/mL	7.21	5.36 – 9.05	20.5	15.3 – 25.6	48.7	36.6 – 60.9
PSA (Free)	ng/mL	0.380	0.240 – 0.520	1.74	1.28 – 2.21	8.11	6.12 – 10.1
PSA (Total)	ng/mL	0.950	0.557 – 1.34	3.61	2.53 – 4.69	18.1	13.2 – 23.1
PSA (Total) (Gen. 3)	ng/mL	0.730	0.390 – 1.07	2.44	1.66 – 3.21	14.7	10.7 – 18.7
T3 (Free)	pg/mL	2.69	1.62 – 3.76	6.49	4.63 – 8.36	11.0	8.36 – 13.6
T3 (Total)	ng/dL	64.3	<40.0 – 93.9	178	120 – 236	348	247 – 449

INSTRUMENT (1)

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>SIEMENS IMMULITE / IMMULITE 1000 (continued)</b>							
T3 Uptake/T Uptake	% Uptake	25.9	20.9 – 30.9	33.0	26.6 – 39.3	39.7	31.9 – 47.6
T4 (Free)	ng/dL	1.09	0.843 – 1.34	2.59	1.97 – 3.21	>6.00	
T4 (Total)	µg/dL	4.45	2.66 – 6.23	10.2	7.15 – 13.3	16.7	12.2 – 21.2
Testosterone	ng/dL	121	50.5 – 192	420	256 – 583	990	646 – 1335
Thyroglobulin (Tg)	ng/mL	2.87	1.63 – 4.11	1.65	0.559 – 2.73	2.44	1.20 – 3.69
Thyroid Stimulating Hormone (TSH) (Gen. 3)	µIU/mL	0.461	0.366 – 0.556	5.61	4.11 – 7.12	36.5	26.5 – 46.5
Thyroid Stimulating Hormone (TSH) (Rapid)	µIU/mL	0.526	0.418 – 0.634	5.87	4.29 – 7.44	36.0	26.1 – 45.9
Vitamin B12	pg/mL	404	220 – 588	589	348 – 830	866	539 – 1193
<b>SIEMENS IMMULITE 2000 / 2000 XP</b>							
<b>ACTH</b>	<b>pg/mL</b>	<b>86.9</b>	<b>34.8 – 139</b>	<b>151</b>	<b>63.3 – 238</b>	<b>348</b>	<b>151 – 544</b>
<b>AFP</b>	<b>ng/mL</b>	<b>18.3</b>	<b>12.6 – 24.0</b>	<b>99.3</b>	<b>67.8 – 131</b>	<b>214</b>	<b>147 – 282</b>
Androstenedione	ng/mL	0.858	0.420 – 1.30	3.32	2.02 – 4.61	5.83	3.66 – 8.00
<b>Calcitonin</b>	<b>pg/mL</b>	<b>25.2</b>	<b>12.8 – 37.6</b>	<b>180</b>	<b>131 – 230</b>	<b>418</b>	<b>312 – 525</b>
Carbamazepine	µg/mL	2.25	1.68 – 2.82	6.36	5.05 – 7.68	11.2	9.01 – 13.4
CEA	ng/mL	2.55	1.68 – 3.42	21.2	16.2 – 26.2	47.0	36.3 – 57.7
Cortisol	µg/dL	2.86	1.85 – 3.87	17.4	13.0 – 21.8	24.9	18.8 – 31.1
C-Peptide	ng/mL	0.404	0.194 – 0.614	5.25	3.97 – 6.53	8.51	6.49 – 10.5
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate) (DHEA-Sulfate)	µg/dL	57.9	38.4 – 77.5	144	102 – 187	513	374 – 652
Digoxin	ng/mL	0.842	0.535 – 1.15	2.47	1.87 – 3.08	4.02	3.14 – 4.90
Estradiol	pg/mL	93.9	58.1 – 130	270	197 – 344	546	414 – 679
<b>Estriol (Free)</b>	<b>ng/mL</b>	<b>1.01</b>	<b>0.547 – 1.48</b>	<b>4.36</b>	<b>3.08 – 5.64</b>	<b>10.4</b>	<b>7.60 – &gt;12.0</b>
Ferritin	ng/mL	73.5	56.1 – 90.9	159	121 – 197	424	322 – 526
Folate	ng/mL	3.71	2.54 – 4.87	8.66	5.59 – 11.7	14.5	9.16 – 19.8
Follicle Stimulating Hormone (FSH)	mIU/mL	6.26	4.94 – 7.57	26.3	20.7 – 31.9	56.5	44.8 – 68.3
<b>Gastrin</b>	<b>pg/mL</b>	<b>59.2</b>	<b>27.2 – 91.2</b>	<b>249</b>	<b>157 – 341</b>	<b>523</b>	<b>345 – 701</b>
<b>hCG</b>	<b>mIU/mL</b>	<b>8.56</b>	<b>4.53 – 12.6</b>	<b>26.7</b>	<b>18.4 – 34.9</b>	<b>250</b>	<b>187 – 313</b>
<b>Human Growth Hormone (hGH) (L2KGRH/L5KGRH)</b>	<b>ng/mL</b>	<b>2.85</b>	<b>2.20 – 3.51</b>	<b>7.99</b>	<b>6.30 – 9.68</b>	<b>13.1</b>	<b>10.4 – 15.8</b>
<b>IGF-1/Somatomedin C</b>	<b>ng/mL</b>	<b>105</b>	<b>71.7 – 138</b>	<b>111</b>	<b>75.4 – 147</b>	<b>116</b>	<b>78.2 – 153</b>
Immunoglobulin E (IgE)	IU/mL	369	249 – 489	96.1	66.2 – 126	125	85.3 – 164
Luteinizing Hormone (LH)	mIU/mL	1.57	1.16 – 1.97	18.6	13.7 – 23.4	54.4	40.1 – 68.8
Phenobarbital	µg/mL	8.65	7.00 – 10.3	21.6	18.0 – 25.2	47.2	39.6 – 54.8
Phenytoin	µg/mL	6.96	4.62 – 9.30	13.8	9.96 – 17.7	24.4	18.2 – 30.6
Progesterone	ng/mL	0.697	0.443 – 0.952	7.77	5.59 – 9.95	19.1	13.8 – 24.4
Prolactin	ng/mL	6.78	5.21 – 8.35	18.3	14.4 – 22.3	43.8	34.6 – 52.9
Prostatic Acid Phosphatase (PAP)	ng/mL	1.44	0.745 – 2.13	23.8	19.1 – 28.4	49.3	40.1 – 58.5
PSA (Free)	ng/mL	0.408	0.275 – 0.541	1.75	1.29 – 2.21	8.84	6.65 – 11.0
PSA (Total)	ng/mL	0.942	0.547 – 1.34	3.24	2.24 – 4.23	16.4	11.9 – 21.0
T3 (Free)	pg/mL	2.76	1.67 – 3.86	6.28	4.63 – 7.92	11.0	8.65 – 13.4
T3 (Total)	ng/dL	61.6	39.5 – 83.8	181	139 – 224	364	290 – 437
T3 Uptake/T Uptake	% Uptake	27.7	23.4 – 32.0	32.2	26.7 – 37.7	37.2	30.3 – 44.1
T4 (Free) (L2KFT4/L5KFT4)	ng/dL	0.945	0.759 – 1.13	2.34	1.88 – 2.80	5.42	4.34 – >6.00
T4 (Total)	µg/dL	4.07	2.74 – 5.39	8.86	6.48 – 11.2	15.6	11.7 – 19.4
Testosterone	ng/dL	139	84.3 – 193	422	276 – 569	1207	805 – >1600
Theophylline	µg/mL	4.19	2.71 – 5.67	13.8	9.94 – 17.7	24.3	17.8 – 30.7
Thyroglobulin (Tg)	ng/mL	2.54	1.18 – 3.90	1.34	0.433 – 2.24	2.37	1.07 – 3.66
Thyroid Stimulating Hormone (TSH) (Gen. 3)	µIU/mL	0.451	0.357 – 0.544	5.52	4.06 – 6.98	32.7	23.7 – 41.6
Thyroid Stimulating Hormone (TSH) (Rapid)	µIU/mL	0.464	0.370 – 0.558	5.52	4.06 – 6.98	32.0	23.2 – 40.8
Thyroxine Binding Globulin (TBG)	µg/mL	15.0	10.2 – 19.9	13.4	8.42 – 18.4	14.0	9.00 – 18.9
Valproic Acid	µg/mL	29.4	23.2 – 35.6	74.8	61.1 – 88.6	113	92.8 – 133
Vitamin B12	pg/mL	326	225 – 426	538	377 – 698	873	618 – >1000
<b>TOSOH AIA SYSTEMS (2)</b>							
25-Hydroxy Vitamin D (AIA-PACK)	ng/mL	16.6	11.6 – 21.6	25.9	18.1 – 33.7	22.2	15.5 – 28.9
ACTH (ST AIA-PACK)	pg/mL	71.2	48.6 – 93.7	85.7	60.0 – 111	190	133 – 247
AFP (ST AIA-PACK)	ng/mL	18.8	13.2 – 24.4	95.8	67.1 – 125	203	142 – 264
CEA (ST AIA-PACK)	ng/mL	2.90	2.00 – 3.80	20.0	14.0 – 26.0	42.5	29.8 – 55.3

#1

**INSTRUMENT (1)**

	Units	Level 1 - 40461		Level 2 - 40462		Level 3 - 40463	
		Mean	Range	Mean	Range	Mean	Range
<b>TOSOH AIA SYSTEMS (2) (continued)</b>							
Cortisol (ST AIA-PACK)	µg/dL	3.30	2.30 – 4.30	19.9	13.9 – 25.9	28.4	19.9 – 36.9
C-Peptide (II, ST AIA-PACK)	ng/mL	0.470	0.330 – 0.610	5.05	3.54 – 6.57	8.04	5.63 – 10.5
Dehydroepiandrosterone-Sulfate (DHEA-Sulfate) (ST AIA-PACK)	µg/dL	72.6	50.8 – 94.4	179	125 – 232	562	393 – 730
Estradiol (REF E2-025274)	pg/mL	247	173 – 321	579	405 – 752	1125	787 – 1462
Estradiol (REF HSE2-025225)	pg/mL	75.9	53.1 – 98.7	222	156 – 289	380	266 – 495
Ferritin (ST AIA-PACK)	ng/mL	52.0	36.4 – 67.6	117	81.8 – 152	298	209 – 387
Folate (AIA-PACK)	ng/mL	5.02	3.51 – 6.53	10.1	7.07 – 13.1	15.8	11.1 – >20.0
Follicle Stimulating Hormone (FSH) (ST AIA-PACK)	mIU/mL	7.90	5.50 – 10.3	21.8	15.3 – 28.3	33.2	23.2 – 43.2
hCG (Total Beta, ST AIA-PACK)	mIU/mL	7.00	4.90 – 9.10	26.6	18.6 – 34.6	234	164 – 304
Human Growth Hormone (hGH) (ST AIA-PACK)	ng/mL	2.77	1.94 – 3.60	8.40	5.88 – 10.9	14.5	10.1 – 18.8
Immunoglobulin E (IgE) (II, ST AIA-PACK)	IU/mL	338	236 – 439	91.8	64.3 – 119	121	84.9 – 158
Insulin (IRI, ST AIA-PACK)	µIU/mL	17.1	12.0 – 22.2	64.3	45.0 – 83.6	177	124 – 231
Luteinizing Hormone (LH) (II, ST AIA-PACK)	mIU/mL	1.10	0.800 – 1.40	18.7	13.1 – 24.3	68.2	47.7 – 88.7
Progesterone (ST AIA-PACK, PROGI)	ng/mL	0.310	0.220 – 0.400	10.7	7.52 – 14.0	28.1	19.7 – 36.5
Progesterone (ST AIA-PACK, PROGI) (Cal Lot G33CC359)	ng/mL	0.620	0.430 – 0.810	13.0	9.11 – 16.9	31.5	22.1 – >40.0
Prolactin	ng/mL	<1.00		6.50	4.60 – 8.50	7.10	5.00 – 9.20
Prostatic Acid Phosphatase (PAP) (ST AIA-PACK)	ng/mL	1.70	1.20 – 2.20	24.9	17.4 – 32.4	>40.0	
PSA (Total) (ST AIA-PACK)	ng/mL	0.830	0.580 – 1.08	2.82	1.97 – 3.67	14.1	9.85 – 18.3
T3 (Free) (ST AIA-PACK)	pg/mL	3.00	2.10 – 3.90	9.46	6.62 – 12.3	24.7	17.3 – >25.0
T3 (Total) (ST AIA-PACK)	ng/mL	0.810	0.570 – 1.05	1.94	1.36 – 2.52	3.52	2.46 – 4.58
T3 Uptake/T Uptake (ST AIA-PACK)	% Uptake	34.6	24.2 – 45.0	41.5	29.1 – 54.0	49.2	34.4 – >60.0
T4 (Free) (ST AIA-PACK)	ng/dL	0.900	0.630 – 1.17	2.20	1.54 – 2.86	5.52	3.86 – 7.18
T4 (Total) (ST AIA-PACK)	µg/dL	4.30	3.00 – 5.60	8.30	5.80 – 10.8	14.3	10.0 – 18.6
Testosterone (ST AIA-PACK)	ng/dL	126	88.3 – 164	469	328 – 609	1365	955 – 1774
Thyroid Stimulating Hormone (TSH) (ST AIA-PACK)	µIU/mL	0.430	0.300 – 0.560	5.83	4.08 – 7.58	34.8	24.4 – 45.3
Thyroid Stimulating Hormone (TSH) (TSH3G, AIA-PACK)	µIU/mL	0.440	0.310 – 0.570	6.03	4.22 – 7.84	36.7	25.7 – 47.7
Vitamin B12 (AIA-PACK)	pg/mL	466	326 – 606	668	468 – 868	934	654 – 1214

**FOOTNOTES**

- (1) All footnotes may not apply to your custom selected data chart.
- (2) The assigned values were determined using the reagent and/or instrument manufacturer's protocol and may not represent  $\pm 3SD$  ranges.
- (3) For the conversion factor, refer to the manufacturer's instruction for use.
- (4) No distinct recovery values may be observed between Levels 1 and 2 on some methods.

▲ Data is not available at this time. Please inquire.

§ The data required to establish the means and acceptable ranges for this assay were not obtained due to limited assignment participation. If your facility is interested in participating in the Value Assignment Program for this assay, please contact your local Bio-Rad office.