

# BI – LEVEL DHEA PLUS

## SERUM TOXICOLOGY CONTROL

### I. INTENDED USE:

Many analytes can be measured in patients by using analytical test methods. The UTAK Bi – Level DHEA Plus Control is for use as a quality control material for monitoring the levels of analytes in serum. It is intended for use on a continuous basis so that deviations of reagents and analytical instrumentation can be detected on a statistical basis.

### II. SUMMARY AND PRINCIPLES:

Several different techniques are used for evaluating or estimating the variance of results. The three subjects summarized below must be considered with any test method.

#### 1. PREVENTIVE MEASURES:

These measures are usually contained in the design of the test method and include consideration for reagents, equipment, and operator errors. These measures are designed to minimize variance.

#### 2. QUALITY CONTROL MEASURES:

When a quality control sample is analyzed at the same time and in the same manner as a patient specimen, an estimate of variance is obtained for the test method. This estimate of variance can be compared to the acceptable limits of variance of the test method.

#### 3. STATISTICAL ANALYSIS OF PATIENT RESULTS:

As an aid in evaluating overall test results, the past experience of expected results can be compared to the results of any given test run. For example, it would not be expected that all results of a given test run be in an elevated range.

Quality control materials are widely used as a means to aid in the evaluation of test results. The following subjects are to be considered in the use of any control material.

- |                 |                            |
|-----------------|----------------------------|
| 1. Multi-Level  | NORMAL / ELEVATED          |
| 2. Matrix       | HUMAN / ANIMAL / CHEMICAL  |
| 3. Availability | SUFFICIENT FOR STATISTICS  |
| 4. Form         | LIQUID / FROZEN / DRIED    |
| 5. Variety      | DIFFERENT THAN CALIBRATORS |

The UTAK Bi – Level DHEA Plus Controls is prepared from normal human materials and will generate data that checks and evaluates the results of a test method over the normal and elevated ranges. The principles of statistics require that the same material be available for comparison for any given time period. Frozen control materials both extend the usable time period and allow larger quantities to be available. Statistical accuracy requires that a test method be defined for variance and be calibrated with a suitable standard. The quality control materials that are used must be of a sufficient variety so that the measurements and the data that are obtained are independent of the calibration standards. By using a variety of materials, the entire test method can be continuously evaluated to insure reliable results.

### III. PRODUCT DESCRIPTION:

The matrix for the UTAK Bi – Level DHEA Plus Controls is prepared from normal human serum. The metabolites are added and adjusted to the desired concentration range for each lot prepared (Target Value). Quality control before, during, and after the preparation of the control material ensures that each lot is of the same quality.

### IV. PRECAUTIONS:

- Although the serum has been tested and found negative for HBsAg by RIA and HIV by EIA, the control material should be treated as any other potentially infectious agent.
- For in vitro diagnostic use only.
- For analytical use only.

### V. STORAGE AND STABILITY:

- Store fresh frozen materials at or below -10°C (14°F). Stable to expiration date printed on the insert and label.
- Store thawed material at or below 2-8°C (35-46°F). **Stable for 25 days thawed.**

### VI. PROCEDURE:

- Allow fresh frozen material to thaw at room temperature with cap on.
- Swirl gently 3-4 minutes to ensure a homogeneous mixture.
- Swirl gently each time an aliquot is removed to ensure a homogeneous mixture.

- Assay control material in same manner as patient specimens, following the exact same instructions from the entire test method.
- Record the results obtained on a quality control chart that describes the statistical limits for the test method and the particular lot of control material.

### VII. LIMITATIONS:

- Control material is for use in quality control programs only; it is not intended for use as a calibration standard.
- Check the lot number on each vial to be sure it corresponds to the lot number printed on the insert.
- Results are dependent upon proper storage, reconstitution accuracy, and adequate mixing.
- Control material approximates a patient specimen; it has not been assayed for any analytes not listed in the table below.

### VIII. EXPECTED VALUES:

- Listed in the table below are the Target Value and the *Reference Value*; the *Reference Value* is derived from replicate analysis performed by independent laboratory testing.
- The *Reference Value* is determined by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC/MS-MS).
- Laboratories should establish their own statistical values for precision and expected ranges.

<b>DHEA PLUS</b>				
Analyte	<b>51410 Low</b>		<b>51411 High</b>	
	Lot Number : <b>A7594</b> Expiration Date : <b>08/18</b>		Lot Number : <b>A7595</b> Expiration Date : <b>08/18</b>	
	Target Value	Reference Value	Target Value	Reference Value
<b>Androstenedione</b>	1.5 ng/mL (5.24 nmol/L)	1.39 ng/mL (4.85 nmol/L)	4 ng/mL (13.97 nmol/L)	3.58 ng/mL (12.50 nmol/L)
<b>Hydrocortisone</b>	6.0 µg/dL (165.5 nmol/L)	6.9 µg/dL (190.4 nmol/L)	20 µg/dL (551.8 nmol/L)	20.1 µg/dL (554.5 nmol/L)
<b>Cortisone</b>	1.5 µg/dL (41.6 nmol/L)	1.7 µg/dL (47.2 nmol/L)	4 µg/dL (111 nmol/L)	4.4 µg/dL (122.1 nmol/L)
<b>Corticosterone</b>	300 ng/dL (8.7 nmol/L)	245 ng/dL (7.1 nmol/L)	800 ng/dL (23.1 nmol/L)	892 ng/dL (25.7 nmol/L)
<b>11-Deoxycortisol</b>	100 ng/dL (2.89 nmol/L)	118 ng/dL (3.41 nmol/L)	300 ng/dL (8.66 nmol/L)	286 ng/dL (8.25 nmol/L)
<b>Dehydroepiandrosterone (DHEA)</b>	3 ng/mL (10.4 nmol/L)	2.77 ng/mL (9.6 nmol/L)	8 ng/mL (27.7 nmol/L)	7.93 ng/mL (27.5 nmol/L)
<b>Progesterone</b>	7.5 ng/mL (23.85 nmol/L)	6.14 ng/mL (19.53 nmol/L)	20 ng/mL (63.6 nmol/L)	18.6 ng/mL (59.15 nmol/L)
<b>17-α-Hydroxyprogesterone</b>	300 ng/dL (9.1 nmol/L)	311 ng/dL (9.4 nmol/L)	800 ng/dL (24.2 nmol/L)	930 ng/dL (28.1 nmol/L)
<b>Testosterone</b>	300 ng/dL (10.4 nmol/L)	274 ng/dL (9.5 nmol/L)	800 ng/dL (27.7 nmol/L)	755 ng/dL (26.2 nmol/L)

UTAK's express and implied warranties (including merchantability and fitness) are conditioned on the observance of UTAK's insert directions with respect to the use of UTAK's products.

**For technical assistance call: UTAK Technical Service (800) 235-3442**

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**PRODUCT NUMBER:**  
**51410, Low**  
**51411, High**  
**5x3ML VIALS, FROZEN**

**EC AUTHORIZED REPRESENTATIVE**  
 EMERGO EUROPE  
 MOLENSTRAAT 15  
 2513 BH, THE HAGUE  
 THE NETHERLANDS

