

## Advanced Instruments ControlLine™ Products

A comprehensive line of calibration standards  
and quality control products specifically  
designed to optimize the precision and  
performance of your osmometer.



Advanced® ControLine Products are a family of osmometer quality control and reference solutions designed to optimize system performance while improving the quality of your osmolality test results. ControLine products are manufactured to stringent NIST and ISO 9000 quality systems standards and offer the tightest manufacturing specifications in the industry. Results using ControLine products are far more precise and the true performance of your osmometer can only be realized with control materials specifically designed for your instrument. Our control materials work in any osmometer to optimize performance and achieve reliable results.



Request our white paper, "Performance Evaluation of Commercially Available Osmometer Control Solutions" by visiting [www.aicompanies.com/controline](http://www.aicompanies.com/controline)

*"Even a slight shift in the osmolality of a patient sample can be diagnostically significant, making an accurate control system extremely important."*



### Advanced® Calibration Standards

Advanced Instruments Calibration Standards are designed to accurately calibrate our full line of Advanced® osmometers. Specific calibration levels are designated for each instrument. In addition, the calibration standards can be used to check the performance of your osmometer and test methods. Advanced Calibration Standards are suitable for laboratories following the USP <785> Osmolality and EP 2.2.35 Osmolality test methods.

Use Calibration Standards to:

- Perform routine osmometer calibration
- Verify calibration accuracy and instrument performance
- Test unknown solutions of similar osmolality

### Clinitrol™ 290 Reference Solution

Clinitrol is a true instrument reference solution designed specifically to evaluate the performance of your osmometer. Clinitrol is formulated at 290 mOsm/kg H<sub>2</sub>O and provides results that approximate the osmolality of normal serum. Use Clinitrol to verify system calibration and as a daily system check to strengthen your laboratory's quality control program. Clinitrol Reference Solution is premixed and ready to use in convenient 2 mL and 5 mL ampules.

Use Clinitrol to:

- Confirm instrument calibration, accuracy, and precision
- Establish method performance parameters for unknown samples
- Monitor operator technique across multiple operators or several shifts

*"Because the osmometer is trusted to give accurate results for patient diagnosis, high performance of the system must be certain at all times. This can only be achieved with a control program utilizing trusted control materials."*





### Osmolality Linearity Set

The Osmolality Linearity Set is designed to help laboratories easily monitor osmometer performance specifications for verifying the reportable range of a laboratory method. The package contains two sets of 5 mL ampules with assigned values of 100, 500, 900, 1500, and 2000 mOsm/kg H<sub>2</sub>O.

Use the Osmolality Linearity Set to:

- Verify linearity and reportable range of laboratory methods
- Perform routine calibration verification testing
- Assess and document method performance standards



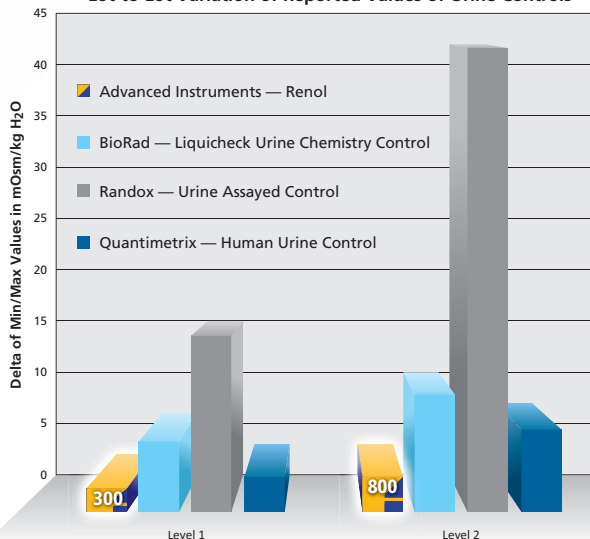
### Renol™ Urine Controls

Renol is a urine-based osmometer control solution designed specifically for osmometers. It is intended for use in clinical laboratories testing human urine samples to insure compliance with CLIA and CAP quality control requirements. Renol is formulated at 300 and 800 mOsm/kg H<sub>2</sub>O, which closely mimics medical decision levels where performance is critical for interpretation of urine osmolality test results.

Renol comes premixed and ready to use in convenient 2 mL screw top bar-coded vials. It is also available in 3 mL vials for osmometers requiring larger sample volumes. Renol has 10-day open vial stability under refrigerated conditions and is available in a convenient 2-level kit and also individual level kits.

Renol is manufactured to extremely tight tolerances and has the smallest lot-to-lot variability and the narrowest acceptable performance ranges of any commercially available urine control solution. Because of this, Renol will signal a shift in instrument performance far sooner than any other osmometer control on the market today.

Lot-to-Lot Variation of Reported Values of Urine Controls



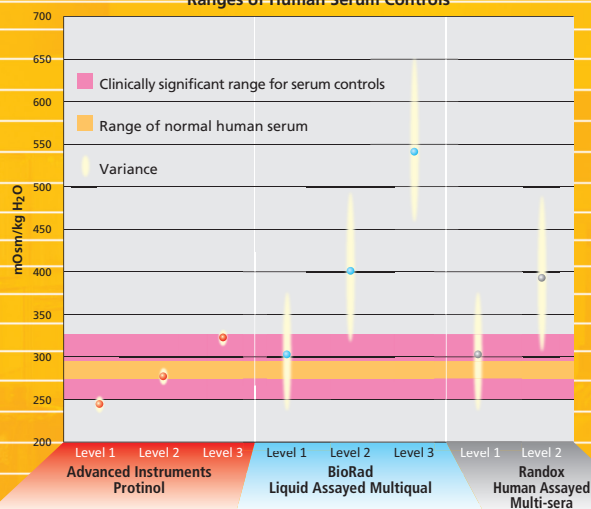


## Protinol® Protein-Based Controls

Protinol is a protein-based serum osmometer control solution. It is intended for use in evaluating the performance of your osmometer in a clinical laboratory testing human serum samples. Protinol is specifically formulated at three clinically relevant decision levels (240, 280, and 320 mOsm/kg H<sub>2</sub>O) allowing users to comply with CLIA and CAP quality control requirements.

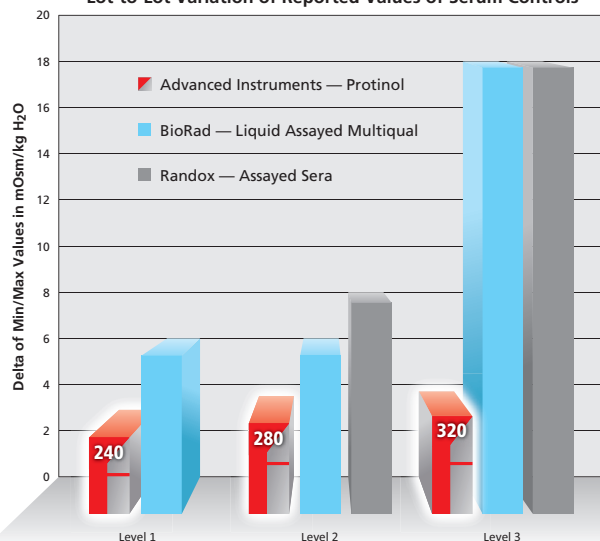
Protinol comes premixed and ready to use in convenient 2 mL screw top bar-coded vials. It is also available in 3 mL vials for osmometers requiring larger sample volumes. Protinol has 7-day open vial stability under refrigerated conditions and is available in a convenient 3-level kit and also individual level kits.

Ranges of Human Serum Controls



Only Protinol meets College of American Pathologists (CAP) guidelines by offering multiple levels at relevant medical decision points.

Lot-to-Lot Variation of Reported Values of Serum Controls



Protinol has the smallest lot-to-lot variability and the tightest acceptable performance ranges when compared to commercially available serum controls. Because of this, Protinol will signal a shift in instrument performance far sooner than any other osmometer control on the market today.

## Advanced ControlLine Products

### ABOUT ADVANCED INSTRUMENTS

Advanced Instruments, Inc., and our subsidiaries, Delta Instruments and Mart Microbiology, design and manufacture instrumentation for clinical, pharmaceutical, biotechnology, microbiology, and food laboratories. The products we make help healthcare providers improve the quality of care, and industrial companies enhance quality and productivity.

### Calibration Standards

Part #	Description	Expected Range
3MA005	50 mOsm Calibration Standard, 10x2 mL	48-52 mOsm/kg H <sub>2</sub> O
3LA011	100 mOsm Calibration Standard, 10x5 mL	98-102 mOsm/kg H <sub>2</sub> O
3MA020	200 mOsm Calibration Standard, 10x2 mL	198-202 mOsm/kg H <sub>2</sub> O
3MA040	400 mOsm Calibration Standard, 10x2 mL	398-402 mOsm/kg H <sub>2</sub> O
3LA051	500 mOsm Calibration Standard, 10x5 mL	497.5-502.5 mOsm/kg H <sub>2</sub> O
3MA085	850 mOsm Calibration Standard, 10x2 mL	845.75-854.25 mOsm/kg H <sub>2</sub> O
3LA091	900 mOsm Calibration Standard, 10x5 mL	895-904.5 mOsm/kg H <sub>2</sub> O
3MA100	1000 mOsm Calibration Standard, 10x2 mL	995-1005 mOsm/kg H <sub>2</sub> O
3LA151	1500 mOsm Calibration Standard, 10x5 mL	1492.5-1507.5 mOsm/kg H <sub>2</sub> O
3LA201	2000 mOsm Calibration Standard, 10x5 mL	1990-2010 mOsm/kg H <sub>2</sub> O
3LA301	3000 mOsm Calibration Standard, 10x5 mL	2985-3015 mOsm/kg H <sub>2</sub> O

### Control Solutions

Part #	Description	Expected Values	Expected Range
200213	Protinol 3-Level Serum Control Kit, 2 mL Vials 12-Pack		
200214	Protinol 240 mOsm Serum Control, 2 mL Vials 8-Pack	240 mOsm/kg H <sub>2</sub> O	233-247 mOsm/kg H <sub>2</sub> O
200215	Protinol 280 mOsm Serum Control, 2 mL Vials 8-Pack	280 mOsm/kg H <sub>2</sub> O	273-287 mOsm/kg H <sub>2</sub> O
200216	Protinol 320 mOsm Serum Control, 2 mL Vials 8-Pack	320 mOsm/kg H <sub>2</sub> O	313-327 mOsm/kg H <sub>2</sub> O
200217	Renol 2-Level Urine Control Kit, 2 mL Vials 8-Pack		
200218	Renol 300 mOsm Urine Control, 2 mL Vials 8-Pack	300 mOsm/kg H <sub>2</sub> O	290-310 mOsm/kg H <sub>2</sub> O
200219	Renol 800 mOsm Urine Control, 2 mL Vials 8-Pack	800 mOsm/kg H <sub>2</sub> O	790-810 mOsm/kg H <sub>2</sub> O
3MA028*	Protinol 3-Level Serum Osmometer Control Kit, 3x3x3 mL		
3LA085*	Renol 2-Level Urine Control Kit, 2x4x3 mL		

### Reference Solutions

Part #	Description	Expected Values	Expected Range
3MA029	Clinitrol 290 Reference Solution, 10x2 mL	290 mOsm/kg H <sub>2</sub> O	288-292 mOsm/kg H <sub>2</sub> O
3LA029	Clinitrol 290 Reference Solution, 10x5 mL	290 mOsm/kg H <sub>2</sub> O	288-292 mOsm/kg H <sub>2</sub> O

### Osmolality Linearity Set

Part #	Description
3LA029	Osmolality Linearity Set 100-2000 mOsm, 10x5 mL

\* The 3 mL Protinol and Renol products are ideally suited for Model 3250 and 3900 osmometers requiring a larger sample volume of 250  $\mu$ L.



The management system governing the manufacturing of this product is ISO 9001 and ISO 13485 registered.

Advanced Instruments products are available from a worldwide distributor network. For more information on our products and services or to find your nearest distributor, visit us at [www.aicompanies.com](http://www.aicompanies.com) or e-mail us at [info@aicompanies.com](mailto:info@aicompanies.com).

### Hot-Line® Technical Service

Advanced Instruments Hot-Line Service and worldwide distributor network provide comprehensive customer service and technical support.



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