ARCHITECT iVancomycin

REF 1P30-29

en

iVancomycin
1P30
G81999R01
B1PD00

Package insert instructions must be carefully followed. Reliability of assay results cannot be guaranteed if there are any deviations from the instructions in this package insert.

NAME

ARCHITECT iVancomycin

INTENDED USE

The ARCHITECT iVancomycin assay is an *in vitro* chemiluminescent microparticle immunoassay (CMIA) for the quantitative measurement of vancomycin in human serum or plasma on the ARCHITECT iSystem with STAT protocol capability. The ARCHITECT iVancomycin assay is used in the diagnosis and treatment of vancomycin overdose and in monitoring levels of vancomycin to help ensure appropriate therapy.

SUMMARY AND EXPLANATION OF THE TEST

Vancomycin hydrochloride is a tricyclic glycopeptide derived from *Amycolatopsis orientalis*.[1] It is commonly used in the treatment of methicillin-resistant *Staphylococcus aureus* infections.[2] This glycopeptide inhibits the growth of the bacterium by intervening in the cell wall synthesis, thereby killing the bacterium. Extensive review articles have been published which fully examine vancomycin's effectiveness and pharmacokinetics.[1, 3]

Vancomycin is absorbed minimally from the gastrointestinal tract. In the first 24 hours after intravenous dosing, the usual route of administration, about 90% of the vancomycin is excreted unchanged by the kidneys. The average half-life in patients with normal renal function is about 6 hours. Vancomycin is approximately 55% bound to plasma proteins. Therapeutic serum levels vary depending on the microorganism involved and the patient's tolerance to the drug.[4, 5] Vancomycin serum or plasma concentrations are monitored to guide therapy, since individual patient differences require dose changes that are difficult to predict. Monitoring serum or plasma levels of vancomycin decreases the frequency of serious toxic effects.

BIOLOGICAL PRINCIPLES OF THE PROCEDURE

The ARCHITECT iVancomycin assay is a one-step STAT immunoassay for the quantitative measurement of vancomycin in human serum or plasma using CMIA technology with flexible assay protocols, referred to as Chemiflex.

1. Sample, anti-vancomycin coated paramagnetic microparticles, and vancomycin acridinium-labeled conjugate are combined to create a reaction mixture. The anti-vancomycin coated microparticles bind to vancomycin present in the sample and to the vancomycin acridinium-labeled conjugate.
2. After washing, Pre-Trigger and Trigger Solutions are added to the reaction mixture.
3. The resulting chemiluminescent reaction is measured as relative light units (RLUs). There is an indirect relationship between the amount of vancomycin in the sample and the RLUs detected by the ARCHITECT iSystem optics.

For additional information on system and assay technology, refer to the ARCHITECT System Operations Manual, Section 3.

REAGENTS

Kit Contents

ARCHITECT iVancomycin 1P30

NOTE: Some kit sizes are not available in all countries or for use on all ARCHITECT iSystems. Please contact your local distributor.

REF	1P30-29
Σ	100
MICROPARTICLES	1 x 6.6 mL
CONJUGATE	1 x 5.9 mL

MICROPARTICLES Anti-vancomycin (mouse, monoclonal) coated goat anti-mouse (GAM) microparticles in TRIS buffer with protein (bovine) stabilizer. Minimum concentration: 0.05% solids. Preservative: ProClin 300.

CONJUGATE Vancomycin acridinium-labeled conjugate in MES buffer with surfactant. Minimum concentration: 50 ng/mL. Preservative: ProClin 300.

Other Reagents

MULTI-ASSAY MANUAL DILUENT 1 x 100 mL ARCHITECT Multi-Assay Manual Diluent, REF 7D82-50, containing phosphate buffered saline solution. Preservative: antimicrobial agent.

PRE-TRIGGER SOLUTION ARCHITECT Pre-Trigger Solution containing 1.32% (w/v) hydrogen peroxide.

TRIGGER SOLUTION ARCHITECT Trigger Solution containing 0.35 N sodium hydroxide.

WASH BUFFER ARCHITECT Wash Buffer containing phosphate buffered saline solution. Preservatives: antimicrobial agents.

Warnings and Precautions

- IVD
- For *In Vitro* Diagnostic Use

Safety Precautions

CAUTION: This product requires the handling of human specimens. It is recommended that all human-sourced materials be considered potentially infectious and handled in accordance with the OSHA Standard on Bloodborne Pathogens. Biosafety Level 2 or other appropriate biosafety practices should be used for materials that contain or are suspected of containing infectious agents.[6-9]

The following warnings and precautions apply to: MICROPARTICLES	
	
WARNING	Contains methylisothiazolones.
H317	May cause an allergic skin reaction.
Prevention	
P261	Avoid breathing mist / vapors / spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves / protective clothing / eye protection.
Response	
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice / attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
Disposal	
P501	Dispose of contents / container in accordance with local regulations.

The following warnings and precautions apply to: CONJUGATE	
	
WARNING	Contains 5-sulfosalicylic acid dihydrate, methylisothiazolones and copper sulphate*.
H371	May cause damage to organs.
H317	May cause an allergic skin reaction.
H402*	Harmful to aquatic life.
Prevention	
P260	Do not breathe mist / vapors / spray.
P280	Wear protective gloves / protective clothing / eye protection.
P264	Wash hands thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273*	Avoid release to the environment.
Response	
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice / attention.
P308+P311	IF exposed or concerned: Call a POISON CENTER / doctor.
P362+P364	Take off contaminated clothing and wash it before reuse.
Disposal	
P501	Dispose of contents / container in accordance with local regulations.

* Not applicable where regulation EU 1272/2008 (CLP) has been implemented.

Safety Data Sheets are available at www.abbottdiagnostics.com or contact your local representative.

For a detailed discussion of safety precautions during system operation, refer to the ARCHITECT System Operations Manual, Section 8.

Reagent Handling

- Do not use reagent kits beyond the expiration date.
- **Do not pool reagents within a kit or between kits.**
- Before loading the reagent kit on the system for the first time, the microparticle bottle requires mixing to resuspend microparticles that may have settled during shipment. For microparticle mixing instructions, refer to the **PROCEDURE, Assay Procedure** section of this package insert.
- **Septums MUST be used to prevent reagent evaporation and contamination and to ensure reagent integrity. Reliability of assay results cannot be guaranteed if septums are not used according to the instructions in this package insert.**
  - To avoid contamination, wear clean gloves when placing a septum on an uncapped reagent bottle.
  - Once a septum has been placed on an open reagent bottle, **do not invert the bottle** as this will result in reagent leakage and may compromise assay results.
  - Over time, residual liquids may dry on the septum surface. These are typically dried salts and have no effect on assay efficacy.

For a detailed discussion of handling precautions during system operation, refer to the ARCHITECT System Operations Manual, Section 7.

Reagent Storage

When stored and handled as directed, reagents are stable until the expiration date.

	Storage Temperature	Maximum Storage Time	Additional Storage Instructions
Unopened/ Opened*	2-8˚C	Until expiration date	May be used immediately after removal from 2-8˚C storage. Store in upright position.
On board	System temperature	30 days	Discard after 30 days. For information on tracking onboard time, refer to the ARCHITECT System Operations Manual, Section 5.

* Reagents may be stored on or off the ARCHITECT iSystem. If reagents are removed from the system, store them at 2-8˚C (with septums and replacement caps) in an upright position. For reagents stored off the system, it is recommended that they be stored in their original trays and boxes to ensure they remain upright. **If the microparticle bottle does not remain upright (with a septum installed) while in refrigerated storage off the system, the reagent kit must be discarded.** For information on unloading reagents, refer to the ARCHITECT System Operations Manual, Section 5.

Indications of Reagent Deterioration

When a control value is out of the specified range, it may indicate deterioration of the reagents or errors in technique. Associated test results are invalid, and samples must be retested. Assay recalibration may be necessary. For troubleshooting information, refer to the ARCHITECT System Operations Manual, Section 10.

INSTRUMENT PROCEDURE

The ARCHITECT iVancomycin assay file must be installed on the ARCHITECT iSystem with STAT protocol capability from an ARCHITECT iSystem Assay CD-ROM prior to performing the assay.

For detailed information on assay file installation and viewing and editing assay parameters, refer to the ARCHITECT System Operations Manual, Section 2.

For information on printing assay parameters, refer to the ARCHITECT System Operations Manual, Section 5.

For a detailed description of system procedures, refer to the ARCHITECT System Operations Manual.

Alternate Result Units

Edit assay parameter "Result concentration units" to select an alternate unit.

Conversion formula:

(Concentration in Default result unit) x (Conversion factor) = (Concentration in Alternate result unit)

Default result unit	Conversion factor	Alternate result unit
µg/mL	0.69	µmol/L
	1.00	mg/L

SPECIMEN COLLECTION AND PREPARATION FOR ANALYSIS

Specimen Types

Verified specimen types to be used with this assay:

Specimen Types	Collection Tubes
Human serum	Serum
Human plasma	Lithium heparin
	Potassium EDTA
	Sodium citrate
	Sodium heparin
	Sodium fluoride/potassium oxalate

- Other specimen collection tubes, including gel separation tubes, have not been tested with this assay.
- Plasma samples from different anticoagulant tube types should not be used interchangeably for monitoring vancomycin. Use of citrate should be performed only when the blood is collected in a full tube so as not to incur a dilution effect.
- Performance has not been established for the use of cadaveric specimens or the use of body fluids other than human serum or plasma.
- Liquid anticoagulants may have a dilution effect resulting in lower concentrations for individual patient specimens.
- The instrument does not provide the capability to verify specimen type. It is the responsibility of the operator to verify that the correct specimen types are used in the assay.

Specimen Conditions

- Do not use specimens with the following conditions:
  - heat-inactivated
  - grossly hemolyzed
  - obvious microbial contamination
- For accurate results, serum and plasma specimens should be free of fibrin, red blood cells, and other particulate matter. Serum specimens from patients receiving anticoagulant or thrombolytic therapy may contain fibrin due to incomplete clot formation.
- To prevent cross contamination, use of disposable pipettes or pipette tips is recommended.

Preparation for Analysis

- Follow the tube manufacturer's processing instructions for collection tubes. Gravity separation is not sufficient for specimen preparation.
- Mix thawed specimens thoroughly by low speed vortexing or by inverting 10 times. Visually inspect the specimens. If layering or stratification is observed, continue mixing until specimens are visibly homogeneous.
- To ensure consistency in results, centrifuge specimens before testing if
  - they contain fibrin, red blood cells, or other particulate matter or
  - they were frozen and thawed.
- Transfer clarified specimen to a sample cup or secondary tube for testing. For centrifuged specimens with a lipid layer, transfer only the clarified specimen and not the lipemic material.
- Inspect all specimens for bubbles. Remove bubbles with an applicator stick before analysis. Use a new applicator stick for each specimen to prevent cross contamination.

Specimen Storage

Specimen Type	Storage Temperature	Maximum Storage Time
Serum/Plasma	Room temperature	≤ 3 days
	2-8˚C	≤ 8 days
	-20˚C or colder	≤ 3 months

Specimens may be stored on or off the clot or red blood cells for up to three days at room temperature.

Specimens removed from the clot or red blood cells may be stored up to eight days at 2-8˚C.

Specimen Shipping

- Package and label specimens in compliance with applicable state, federal, and international regulations covering the transport of clinical specimens and infectious substances.
- Do not exceed the storage limitations listed above.

PROCEDURE

Materials Provided

1P30 ARCHITECT iVancomycin Reagent Kit

Materials Required but not Provided

- ARCHITECT iVancomycin Assay file obtained from the ARCHITECT iSystem e-Assay CD-ROM found on www.abbottdiagnostics.com.
- 1P30-02 ARCHITECT iVancomycin Calibrators
- Commercially available controls
- 7D82-50 ARCHITECT Multi-Assay Manual Diluent
- ARCHITECT Pre-Trigger Solution
- ARCHITECT Trigger Solution
- ARCHITECT Wash Buffer
- ARCHITECT Reaction Vessels
- ARCHITECT Sample Cups
- ARCHITECT Septum
- ARCHITECT Replacement Caps
- Pipettes or pipette tips (optional) to deliver the volumes specified on the patient or control order screen.

For information on materials required for maintenance procedures, refer to the ARCHITECT System Operations Manual, Section 9.

Assay Procedure

- Before loading the reagent kit on the system for the first time, the microparticle bottle requires mixing to resuspend microparticles that may have settled during shipment. After the first time the microparticles have been loaded, no further mixing is required.
  - **Invert the microparticle bottle 30 times.**
  - Visually inspect the bottle to ensure microparticles are resuspended. If microparticles are still adhered to the bottle, continue to invert the bottle until the microparticles have been completely resuspended.
  - **If the microparticles do not resuspend, DO NOT USE. Contact your local Abbott representative.**
  - Once the microparticles have been resuspended, place a septum on the bottle. For instructions about placing septums on bottles, refer to the **Reagent Handling** section of this package insert.

- Load the reagent kit on the ARCHITECT iSystem.
  - Verify that all necessary reagents are present.
  - Ensure that septums are present on all reagent bottles.
- Order calibration, if necessary.
  - For information on ordering calibrations, refer to the ARCHITECT System Operations Manual, Section 6.
- Order tests.
  - For information on ordering patient specimens and controls and for general operating procedures, refer to the ARCHITECT System Operations Manual, Section 5.
- Minimum sample cup volume is calculated by the system and printed on the Orderlist report. To minimize the effects of evaporation, verify adequate sample cup volume is present prior to running the test.

  Maximum number of replicates sampled from the same sample cup: 10
  - Priority:

    Sample volume for first test: 70 µL

    Sample volume for each additional test from same sample cup: 20 µL
  - ≤ 3 hours on board:

    Sample volume for first test: 150 µL

    Sample volume for each additional test from same sample cup: 20 µL
  - If using primary or aliquot tubes, use the sample gauge to ensure sufficient patient specimen is present.
- Prepare ARCHITECT iVancomycin Calibrators and controls.
  - Mix calibrator(s) by gentle inversion before use.
  - Hold bottles **vertically** and dispense recommended volumes into each respective sample cup.
  - Recommended volumes:

    for each calibrator: 5 drops

    for each control: 150 µL
  - Follow the manufacturer's instructions for preparation of commercially available control material.
- Load samples.
  - For information on loading samples, refer to the ARCHITECT System Operations Manual, Section 5.
- Press RUN.
- For additional information on principles of operation, refer to the ARCHITECT System Operations Manual, Section 3.
- For optimal performance, it is important to perform routine maintenance as described in the ARCHITECT System Operations Manual, Section 9. Perform maintenance more frequently when required by laboratory procedures.

Specimen Dilution Procedures

Specimens with a vancomycin value exceeding 100.00 µg/mL are flagged with the code ">100.00" and may be diluted with the Manual Dilution Procedure.

Manual Dilution Procedure

Suggested dilution: 1:2.

1. Add 100 µL of the patient specimen to 100 µL of ARCHITECT iVancomycin Calibrator A or ARCHITECT Multi-Assay Manual Diluent.
2. The operator must enter the dilution factor in the Patient or Control order screen. The system will use this dilution factor to automatically calculate the concentration of the sample before dilution and report the result. The result should be > 2.0 µg/mL before the dilution factor is applied.

For detailed information on ordering dilutions, refer to the ARCHITECT System Operations Manual, Section 5.

Calibration

- Test calibrators A, B, C, D, E, and F in duplicate. The calibrators should be priority loaded.

  A single sample of each vancomycin control level must be tested to evaluate the assay calibration. Ensure that assay control values are within established ranges.
- Calibration Range: 0.0 - 100.0 µg/mL.
- Once an ARCHITECT iVancomycin calibration is accepted and stored, all subsequent samples may be tested without further calibration unless:
  - A reagent kit with a new lot number is used or
  - Controls are out of range.
- For detailed information on how to perform an assay calibration, refer to the ARCHITECT System Operations Manual, Section 6.

Quality Control Procedures

The recommended control requirement for the ARCHITECT iVancomycin assay is that a single sample of each control level be tested once every 24 hours each day of use. If the quality control procedures in your laboratory require more frequent use of controls to verify test results, follow your laboratory-specific procedures.

Each laboratory should establish control ranges to monitor the acceptable performance of the assay. If a control is out of its specified range, the associated sample results are invalid and the samples must be retested. Recalibration may be indicated.

Verification of Assay Claims

For protocols to verify package insert claims, refer to the ARCHITECT System Operations Manual, Appendix B.

The ARCHITECT iVancomycin assay belongs to method group 1.

RESULTS

Calculation

The ARCHITECT iVancomycin assay utilizes a 4 Parameter Logistic Curve fit data reduction method (4PLC, Y-weighted) to generate a calibration curve.

Flags

Some results may contain information in the Flags field. For a description of the flags that may appear in this field, refer to the ARCHITECT System Operations Manual, Section 5.

Measuring Interval

Measuring interval is defined as the range of values in µg/mL which meets the limits of acceptable performance for both imprecision and bias for an undiluted sample.

For the verification studies described in this package insert, the range is 3.0 µg/mL (Limit of Quantitation - LoQ) to 100.0 µg/mL.

LIMITATIONS OF THE PROCEDURE

- If the ARCHITECT iVancomycin assay results are inconsistent with clinical evidence, additional testing is suggested to confirm the result.
- Results should be used in conjunction with other data; e.g., symptoms, results of other tests, and clinical impressions.
- Plasma samples from different anticoagulant tube types should not be used interchangeably for monitoring vancomycin. Use of citrate should be performed only when the blood is collected in a full tube so as not to incur a dilution effect.
- Specimens from patients who have received preparations of mouse monoclonal antibodies for diagnosis or therapy may contain human anti-mouse antibodies (HAMA). Such specimens may show either falsely elevated or depressed values when tested with assay kits that employ mouse monoclonal antibodies.[10, 11]
- Heterophilic antibodies in human serum can react with reagent immunoglobulins, interfering with *in vitro* immunoassays. The presence of heterophilic antibodies in a patient specimen may cause anomalous values to be observed. Additional information may be required for diagnosis.[12]

EXPECTED VALUES

Strong correlations have been shown between serum levels of vancomycin for both therapeutic and toxic effects. Therapeutic peak serum levels of 20 to 40 µg/mL and trough levels of 5 to 10 µg/mL have been reported to be effective for most strains of *staphylococci* and *streptococci*.[4] However, therapeutic levels of vancomycin must be individually established based on patient differences and bacterial susceptibility. The risk of toxicity is appreciably increased by high concentration or prolonged therapy in patients with renal insufficiency. Toxic effects, such as ototoxicity and nephrotoxicity, have resulted when serum concentrations of vancomycin reach 80 to 100 µg/mL and are rarely seen when serum levels are maintained below 30 µg/mL.[13, 14] If an aminoglycoside is being used concurrently, the potential for toxicity is additive.[4]

Refer to drug manufacturer's package insert for proper drug dosage and for vancomycin measurement sampling times.

For diagnostic purposes, the test findings should always be assessed in conjunction with the patient's medical history, clinical examinations, and other findings.

SPECIFIC PERFORMANCE CHARACTERISTICS

Precision

The ARCHITECT iVancomycin assay is designed to have an assay precision of ≤ 10% total CV.

A study was performed based on guidance from the Clinical and Laboratory Standards Institute (CLSI, formerly NCCLS) Protocol EP5-A2.[15] Abbott Immunoassay-MCC (Liquid) (Levels 1, 2, and 3) and three human serum panels were assayed using two lots of reagents in replicates of two at two separate times per day for 20 days on two instruments. Each reagent lot used a single calibration curve throughout the study. Data from this study are summarized in the following table.*

Sample	Instrument	Reagent Lot	n	Mean (µg/mL)	Within Run SD	Within Run %CV	Total SD	Total %CV
Level 1	1	1	80	6.9	0.16	2.3	0.22	3.1
	2	2	80	6.1	0.11	1.6	0.35	5.0
Level 2	1	1	80	20.3	0.37	1.9	0.66	3.4
	2	2	80	18.6	0.39	2.0	0.95	4.9
Level 3	1	1	80	35.9	0.66	2.0	1.15	3.5
	2	2	80	33.1	0.70	2.1	1.68	5.1
Panel 1	1	1	80	6.5	0.18	2.8	0.24	3.8
	2	2	80	5.7	0.14	2.3	0.27	4.4
Panel 2	1	1	80	37.3	0.96	2.9	1.38	4.2
	2	2	80	33.8	0.87	2.7	1.60	4.9
Panel 3	1	1	80	67.4	1.89	2.7	4.40	6.2
	2	2	80	70.1	2.11	3.0	3.16	4.5

* Representative data; results in individual laboratories may vary from these data.

Recovery

The ARCHITECT iVancomycin assay is designed to have a mean recovery of 100 ± 10%.

A study was performed on five pooled serum samples, where vancomycin was spiked into the samples to target concentrations of 0, 10, 20, 30, 40, and 50 µg/mL. The concentration of vancomycin was determined using the ARCHITECT iVancomycin assay and the resulting percent recovery was calculated. The percent recovery of the ARCHITECT iVancomycin assay ranged from 94.2 to 108.3 with a mean of 100.0%.*

* Representative data; results in individual laboratories may vary from these data.

Linearity

The ARCHITECT iVancomycin assay is designed to have a mean recovery of 100 ± 10% of the expected results for the diluted samples. A linearity study was performed by diluting five pooled serum samples with the ARCHITECT iVancomycin Calibrator A and the ARCHITECT Multi-Assay Diluent. The concentration of vancomycin was determined using the ARCHITECT iVancomycin assay and the resulting percent recovery was calculated.*

		ARCHITECT Calibrator A		ARCHITECT Multi-Assay Manual Diluent	
Specimen	Dilution Factor	Mean Observed Concentration (µg/mL)	% Recovery[a]	Mean Observed Concentration (µg/mL)	% Recovery
1	Undiluted	40.8	--	40.3	--
	1:1.25	34.2	105	33.1	103
	1:2.00	21.7	106	20.9	104
	1:3.33	13.1	107	12.6	104
2	Undiluted	48.7	--	46.2	--
	1:1.25	39.7	102	38.3	104
	1:2.00	25.6	105	25.0	108
	1:3.33	16.1	110	16.2	117
3	Undiluted	60.0	--	57.8	--
	1:1.25	49.1	102	47.9	104
	1:2.00	31.3	104	30.0	104
	1:3.33	18.3	102	18.3	105
4	Undiluted	74.6	--	74.4	--
	1:1.25	62.9	105	58.2	98
	1:2.00	39.0	105	37.8	102
	1:3.33	23.9	107	23.5	105
5	Undiluted	86.0	--	85.3	--
	1:1.25	69.3	101	69.2	101
	1:2.00	46.2	107	43.8	103
	1:3.33	27.2	105	27.6	108

[a] % Recovery = $\frac{\text{Mean Observed Diluted Concentration (µg/mL) x Dilution Factor}}{\text{Mean Observed Undiluted Concentration (µg/mL)}}$ x 100

* Representative data; results in individual laboratories may vary from these data.

Sensitivity

The ARCHITECT iVancomycin assay is designed to have a Limit of Quantitation (LoQ) of ≤ 3.0 µg/mL. The LoQ is defined as the lowest amount of analyte in a sample that can be accurately quantitated with a total allowable error of ± 24%.

A study was performed based on guidance from the NCCLS document EP17-A[16] with four zero-level samples (normal human serum) and 8 samples with vancomycin concentrations ranging from 0.5 to 3.5 µg/mL. The samples were tested in at least 5 separate runs over a minimum of 3 days using 2 reagent lots and 2 instruments. In this study, the Limit of Blank (LoB) was 0.27 µg/mL, Limit of Detection (LoD) was 0.42 µg/mL and LoQ was 2.50 µg/mL.*

* Representative data; results in individual laboratories may vary from these data.

Specificity

Cross-reactivity was tested for compounds whose chemical structure or concurrent usage could cause potential interference with the ARCHITECT iVancomycin assay.

A study has demonstrated that vancomycin crystalline degradation product 1 (CDP-1) at a concentration of 50 µg/mL, has cross-reactivity[a] less than 0.24 µg/mL in the absence of vancomycin. When CDP-1 is tested in the presence of vancomycin, at the same indicated concentration (50 µg/mL), the change in vancomycin measured is less than the designed LoD of the assay. CDP-1 may accumulate in patients with impaired renal function.[17, 18]

The following compounds were tested in the absence of vancomycin after adding 500 µg/mL of each compound (except Methotrexate and CDP-1) to human serum. Methotrexate was tested at 227 µg/mL. Cross-reactivity of each compound was less than 0.24 µg/mL.*

Compounds Tested	
Acetaminophen	Isoniazid
Amikacin	Kanamycin B
Amphotericin B	Methotrexate
Ampicillin	Methylprednisolone
Caffeine	Naproxen
CDP-1	Neomycin
Cephalexin	Nitrofurantoin
Cephalosporin C	Penicillin G
Cephalothin	Penicillin V
Clindamycin	Prednisolone
Chloramphenicol	Rifampin
Chlorothiazide	Salicylic acid
Ciprofloxacin	Spectinomycin
Erythromycin	Streptomycin
Ethambutol	Sulfadiazine
5-Fluorocytosine	Sulfamethoxazole
Furosemide	Tetracycline
Gentamicin	Ticarcillin
Heparin	Tobramycin
Hydrochlorothiazide	Trimethoprim
Ibuprofen	

[a] Cross-reactivity = Observed Test Concentration (µg/mL) – Control Concentration (µg/mL)

* Representative data; results in individual laboratories may vary from these data.

Interference

Potential interference in the ARCHITECT iVancomycin assay from the following compounds is designed to have a mean recovery of 100 ± 10% of the control results at the levels indicated.

A study based on guidance from the CLSI Protocol EP7-A2[19] was performed for the ARCHITECT iVancomycin assay. Serum specimens with vancomycin levels from 4.3 to 83.7 µg/mL were supplemented with the following potentially interfering compounds. The mean recovery observed during the study ranged from 90.2% to 106.6%.*

Potentially Interfering Compound	Concentration
Triglycerides	2500 mg/dL
Hemoglobin	400 mg/dL
Bilirubin	20 mg/dL
Low Protein	3 g/dL
High Protein	10 g/dL
HAMA	1000 ng/mL
Rheumatoid Factor	500 IU/mL

* Representative data; results in individual laboratories may vary from these data.

Method Comparison

The ARCHITECT iVancomycin assay is designed to have a slope of 1.0 ± 0.15 and a correlation coefficient (r) of ≥ 0.93 for serum samples when compared to AxSYM Vancomycin II. Data from this study were analyzed using the Passing-Bablok[a] regression method and are summarized in the following table.*

ARCHITECT iVancomycin vs. AxSYM Vancomycin II

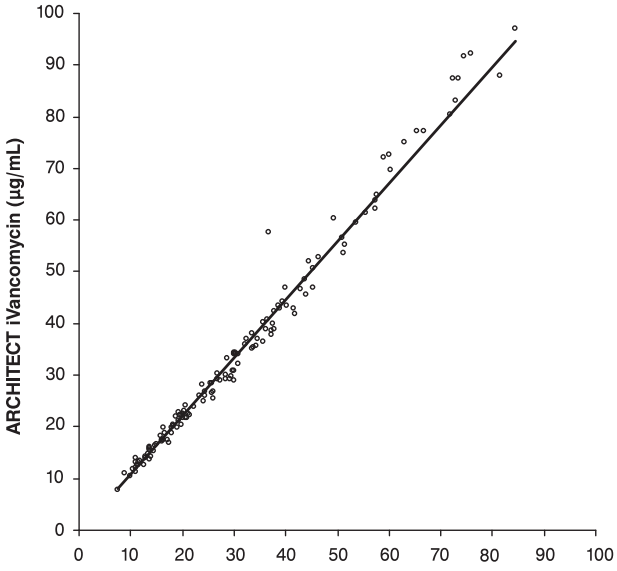
Specimen Concentration Range (µg/mL)		Number of Observations	Correlation Coefficient (r) (95% CI[b])	Slope (95% CI[b])	Intercept (95% CI[b])
ARCHITECT	AxSYM	134	0.99	1.13	-0.56
7.69 - 96.97	7.61 - 84.40		0.99, 0.99	1.10, 1.15	-1.25, 0.04

[a] A linear regression method with no special assumptions regarding the distribution of the samples and measurement errors.[20]

[b] Confidence Interval (CI)

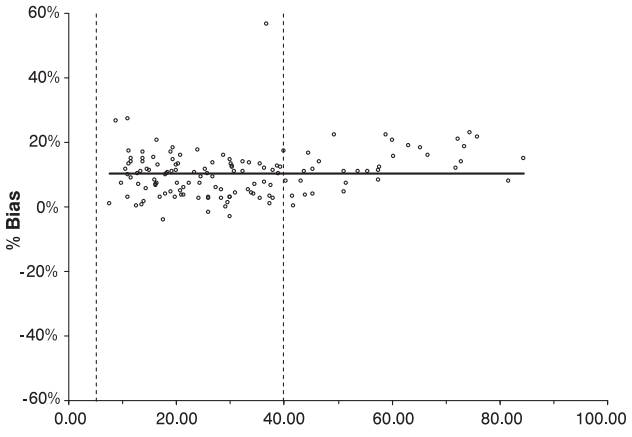
* Representative data; results in individual laboratories may vary from these data.

ARCHITECT iVancomycin vs. AxSYM Vancomycin II



A bias analysis of ARCHITECT iVancomycin vs. AxSYM Vancomycin II was performed on the same 134 specimens in the range of 7.61 - 84.40 µg/mL. The following representative data are provided to aid in understanding the difference between the two assays. The average exhibited by ARCHITECT vs. AxSYM in this study was 10.3%. The 95% confidence interval of that average bias is 9.1 to 11.6%. Within the typical therapeutic range of vancomycin therapy (5 to 40 µg/mL as read in the AxSYM), the average bias was 9.5% with a 95% confidence interval of 8.0 to 11.0%. Results of the study are summarized below.* The vertical lines depict the typical therapeutic range of vancomycin therapy.

ARCHITECT iVancomycin % Bias to AxSYM Vancomycin II



* Representative data; results in individual laboratories may vary from these data.

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Key to Symbols

	Consult instructions for use
	Manufacturer
	Sufficient for
	Temperature limitation
	Use by/Expiration date
CONJUGATE	Conjugate
CONTROL NO.	Control Number
IVD	*In Vitro* Diagnostic Medical Device
LOT	Lot Number
MICROPARTICLES	Microparticles
MULTI-ASSAY MANUAL DILUENT	Multi-Assay Manual Diluent
PRE-TRIGGER SOLUTION	Pre-Trigger Solution
PRODUCED FOR ABBOTT BY	Produced for Abbott by
PRODUCT OF SPAIN	Product of Spain
REACTION VESSELS	Reaction Vessels
REAGENT LOT	Reagent Lot
REF	List Number
REPLACEMENT CAPS	Replacement Caps
SAMPLE CUPS	Sample Cups
SEPTUM	Septum
SN	Serial number
TRIGGER SOLUTION	Trigger Solution
WASH BUFFER	Wash Buffer

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