VALPROIC ACID

FOR USE WITH

ARCHITECT

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Valproic Acid

REF 1E13-20

307105/R06

B1E130

Read Highlighted Changes: Revised August 2016.

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.

INTENDED USE

The MULTIGENT Valproic Acid assay is used for the quantitative in vitro measurement of valproic acid in human serum or plasma on the ARCHITECT *c* Systems.

SUMMARY AND EXPLANATION OF TEST

Valproic acid (VPA; 2-propylpentanoic acid; Depakene) is a broad-spectrum anticonvulsant drug used solely or in combination with other anticonvulsant drugs for the treatment of absence seizures.[1,2] It also has demonstrated effectiveness in the management of generalized tonic-clonic and myoclonic seizures, as well as atypical absence, simple and complex partial, and mixed grand mal and petit mal seizures.[1,3,4] The capability of treating many types of seizures with a single anticonvulsant has resulted in the widespread use of valproic acid, particularly in children in whom tonic-clonic and myoclonic seizures are most prevalent.[5-7] Valproic acid has proven effective in the treatment of many patients otherwise refractory to other anticonvulsant treatments. Most patients receiving valproic acid do not develop a tolerance to its anticonvulsant effects.[8]

PRINCIPLES OF PROCEDURE

The MULTIGENT Valproic Acid assay is a homogeneous particle-enhanced turbidimetric inhibition immunoassay (PETINIA) used for the analysis of valproic acid in serum or plasma. The assay is based on competition between drug in the sample and drug coated onto a microparticle, for antibody binding sites of the valproic acid antibody reagent. The valproic acid-coated microparticle reagent is rapidly agglutinated in the presence of the anti-valproic acid antibody reagent and in the absence of any competing drug in the sample. The rate of absorbance change is measured photometrically, and is directly proportional to the rate of agglutination of the microparticles. When a sample containing valproic acid is added, the agglutination reaction is partially inhibited, slowing down the rate of absorbance change. A concentration-dependent classic agglutination inhibition curve can be obtained, with maximum rate of agglutination at the lowest valproic acid concentration and the lowest agglutination rate at the highest valproic acid concentration.

Methodology: Particle-enhanced turbidimetric inhibition immunoassay (PETINIA)

REAGENTS

Reagent Kit

REF 1E13-20 MULTIGENT Valproic Acid is supplied as a liquid, ready-to-use, two-reagent kit which contains:

R1 1 x 51 mL

R2 1 x 15 mL

Estimated tests per kit: 180

Calculation is based on the fill volumes listed above.

Reactive Ingredients		Concentration
R1	Mouse monoclonal antibodies to valproic acid	< 0.6%
R2	Valproic acid-coated microparticles	≤ 0.5%

Inactive Ingredients: R1 and R2 contain sodium azide (< 0.1%). R1 contains bovine-, goat-, and mouse-sourced material and buffer, detergent, and anti-foaming agent.

REAGENT HANDLING AND STORAGE

Reagent Handling

- R1 Ready for use. Before use, invert several times, avoiding the formation of bubbles.
- R2 Ready for use. Before use, invert several times, avoiding the formation of bubbles.
- Remove air bubbles, if present in the reagent cartridge, with a new applicator stick. Alternatively, allow the reagent to sit at the appropriate storage temperature to allow the bubbles to dissipate. To minimize volume depletion, do not use a transfer pipette to remove the bubbles.

  CAUTION: Reagent bubbles may interfere with proper detection of reagent level in the cartridge, causing insufficient reagent aspiration that could impact results.
- Do not mix materials from different kit lot numbers.
- When either the R1 or the R2 reagent cartridge becomes empty, replace both cartridges and verify with controls according to the established quality control requirements for your laboratory.

Reagent Storage

- Reagent stability is 54 days (1,296 hours) if the reagent is open and onboard.
- Unopened reagents are stable until the expiration date when stored at 2 to 8°C.
- **Do not freeze reagents or expose reagents to temperatures above 32°C.**

Indications of Deterioration

Instability or deterioration should be suspected if there are visible signs of leakage, extreme turbidity, microbial growth, if calibration does not meet the appropriate package insert and/or **ARCHITECT System Operations Manual** criteria, or if controls do not meet the appropriate criteria.

WARNINGS AND PRECAUTIONS

Precautions for Users

- IVD
- For *In Vitro* Diagnostic Use.
- Do not use components beyond the expiration date.
- Do not mix materials from different kit lot numbers.
- Contains nonsterile mouse monoclonal antibodies.
- **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.[9] Biosafety Level 2[10] or other appropriate biosafety practices[11,12] should be used for materials that contain or are suspected of containing infectious agents.
- The following warnings and precautions apply to R1 and R2:

  Contains sodium azide.

  EUH032 Contact with acids liberates very toxic gas.

  P501 Dispose of contents/container in accordance with local regulations.

  NOTE: Refer to *Section 8* of the **ARCHITECT System Operations Manual** for proper handling and disposal of reagents containing sodium azide.
- Safety Data Sheets are available at www.abbottdiagnostics.com or contact your local representative.

SPECIMEN COLLECTION AND HANDLING

Suitable Specimens

Serum and plasma are acceptable specimens.

- **Serum:** Use serum collected by standard venipuncture techniques into glass or plastic tubes with or without gel barriers. Ensure complete clot formation has taken place prior to centrifugation. Centrifuge according to tube manufacturer's instructions to ensure proper separation of serum from blood cells.

  Some specimens, especially those from patients receiving anticoagulant or thrombolytic therapy, may exhibit increased clotting time. If the specimen is centrifuged before a complete clot forms, the presence of fibrin may cause erroneous results.
- **Plasma:** Use plasma collected by standard venipuncture techniques into glass or plastic tubes. Acceptable anticoagulants are lithium heparin, sodium heparin, potassium EDTA, and heparin gel plasma separator. Sodium citrate and sodium fluoride anticoagulants were tested and found to be unacceptable. Ensure centrifugation is adequate to remove platelets. Centrifuge according to tube manufacturer's instructions to ensure proper separation of plasma from blood cells.

NOTE: Some gel separation tubes may not be suitable for use with therapeutic drug monitoring assays; refer to information provided by the tube manufacturer.[13]

It is the responsibility of the operator to verify the correct sample type is used with the MULTIGENT Valproic Acid assay.

Specimens containing particulate matter or red blood cells may give inconsistent results and should be centrifuged before testing (recommended 8,000 to 10,000 RCF* x 10 minutes).

* Relative Centrifugal Force

To confirm that an adequate dose has been prescribed, specimens for the MULTIGENT Valproic Acid assay should be drawn at trough levels, just prior to a dose.[14] The trough concentration is most indicative of the therapeutic value of valproic acid.

For total sample volume requirements, refer to the ASSAY PARAMETERS section of this package insert and *Section 5* of the **ARCHITECT System Operations Manual**.

Specimen Storage

Serum and Plasma: Analyze fresh specimens, if possible. If not, separated specimens may be stored for up to 48 hours at 2 to 8°C prior to being tested. If testing will be delayed more than 48 hours, separated specimens may be stored frozen at -20°C or colder for up to 7 days (168 hours).

NOTE: Stored specimens must be inspected for particulates. If present, mix and centrifuge the specimen to remove particulates prior to testing.

PROCEDURE

Materials Provided

REF 1E13-20 MULTIGENT Valproic Acid

Materials Required but not Provided

- REF 5P04-01 TDM Multiconstituent Calibrator (TDM MCC)
- Control Material
- Saline (0.85% to 0.90% NaCl) for specimens that require dilution

NOTE: If REF 5P04-01 TDM Multiconstituent Calibrator (TDM MCC) is not available, use REF 1E13-02 MULTIGENT Valproic Acid Calibrators.

Assay Procedure

For a detailed description of how to run an assay on the ARCHITECT *c* Systems, refer to *Section 5* of the **ARCHITECT System Operations Manual**.

Specimen Dilution Procedure

Specimens with valproic acid values exceeding 150 µg/mL (1,039.5 µmol/L) or the highest calibrator are flagged and may be diluted by following either the Automated Dilution Protocol or the Manual Dilution Procedure. For additional information regarding configuration of automated onboard specimen dilution, refer to *Section 2* of the **ARCHITECT System Operations Manual**.

Automated Dilution Protocol

If using the Automated Dilution Protocol, the system performs a 1:4 or a 1:8 dilution of the specimen and automatically corrects the concentration by multiplying the result by the appropriate dilution factor.

PROCEDURE (Continued)

Specimen Dilution Procedure (Continued)

Manual Dilution Procedure

A manual dilution can be performed on patient samples with valproic acid concentrations reported as greater than 150.0 µg/mL (1,039.5 µmol/L) or the highest calibrator. Make a dilution of the specimen with REF 1E13-02 MULTIGENT Valproic Acid CAL 1 (0 µg/mL) or saline before pipetting the sample into the sample cup. Do not use REF 5P04-01 TDM MCC CAL 1 to dilute patient samples. The dilution must be performed so the diluted test results are greater than the linear low limit of 12.5 µg/mL (86.6 µmol/L).

$$\text{Manual Dilution Factor} = \frac{\text{(Volume of Sample + Volume of Dilution Reagent)}}{\text{Volume of Sample}}$$

The operator must enter the manual dilution factor in the patient or control order screen. The system uses this dilution factor to automatically correct the concentration by multiplying the result by the entered factor. The printed result is the reportable result if no errors are present.

NOTE: If the operator does not enter the manual dilution factor, the printed result must be multiplied by the manual dilution factor before reporting the result.

CALIBRATION

The MULTIGENT Valproic Acid assay must be calibrated using a full calibration (6-point) procedure. To perform a full calibration, test the TDM MCC CAL 1-6 or MULTIGENT Valproic Acid CAL 1-6 in duplicate.

Calibration is stable for approximately 27 days (648 hours) and is required with each change in reagent lot number. Verify calibration curve with at least two levels of controls according to the established quality control requirements for your laboratory. If control results fall outside acceptable ranges, recalibration may be necessary.

NOTE: TDM MCC CAL 1 or MULTIGENT Valproic Acid CAL 1 is the calibration blank for this assay.

For information on calibrator standardization, refer to the TDM MCC or MULTIGENT Valproic Acid Calibrators package insert.

For a detailed description of how to calibrate an assay, refer to *Section 6* of the **ARCHITECT System Operations Manual**.

QUALITY CONTROL

As appropriate, refer to your laboratory standard operating procedure(s) and/or quality assurance plan for additional quality control requirements and potential corrective actions. Verify the recommended control requirements for the MULTIGENT Valproic Acid assay.

- A minimum of two levels of controls spanning the medical decision range are to be run every 24 hours.
- If more frequent control monitoring is required, follow the established quality control procedures for your laboratory.
- If quality control results do not meet the acceptance criteria defined by your laboratory, patient values may be suspect. Follow the established quality control procedures for your laboratory. Recalibration may be necessary.
- Review quality control results and acceptance criteria following a change of reagent cartridge, reagent lot, or calibrator lot.

RESULTS

Results for the MULTIGENT Valproic Acid assay can be reported as µg/mL or µmol/L. To convert results from µg/mL to µmol/L, multiply µg/mL by 6.93.[15]

IMPORTANT: In very rare cases, patient samples may contain heterophile antibodies, which may produce low results with the MULTIGENT Valproic Acid assay. Refer to the LIMITATIONS OF THE PROCEDURE section of this package insert.

As with all analyte determinations, the valproic acid value should be used in conjunction with information available from clinical evaluation and other diagnostic procedures.

Refer to *Appendix C* of the **ARCHITECT System Operations Manual** for information on results calculations.

Representative performance data are given in the SPECIFIC PERFORMANCE CHARACTERISTICS section of this package insert. Results obtained in individual laboratories may vary.

For additional information, refer to the EXPECTED VALUES section of this package insert.

LIMITATIONS OF THE PROCEDURE

Refer to the SPECIMEN COLLECTION AND HANDLING and SPECIFIC PERFORMANCE CHARACTERISTICS sections of this package insert.

In very rare cases, patient samples may contain heterophile antibodies, which may produce low results with the MULTIGENT Valproic Acid assay. Interfering heterophile antibodies occur at a low frequency in the general population. These antibodies can cause autoagglutination of the microparticle reagent leading to undetected erroneously low results.

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

EXPECTED VALUES

There is no precise relationship between serum valproic acid levels and control of seizures,[16] although most patients require at least a serum level of 50 µg/mL (346.5 µmol/L) for effective therapy.[3,4] A therapeutic range of 50 to 100 µg/mL (346.5 to 693 µmol/L) has been suggested for valproic acid.[1-3] Due to great individual differences in dosage requirements to achieve efficacious therapy, determination of valproic acid serum concentrations is required to direct effective therapy.[3,7,17] Refer to the drug manufacturer's package insert or the Physicians' Desk Reference (PDR) for proper drug dosage and for valproic acid measurement sampling times.

Valproic acid modulates the action of various other common anti-epileptic drugs. It inhibits the non-renal clearance of phenobarbital, resulting in elevated phenobarbital levels. It competes with phenytoin for protein-binding sites. The free phenytoin concentration remains approximately the same, but the total phenytoin in the plasma decreases. Because the free phenytoin concentration remains unchanged, the pharmacological effect is retained. Other common anti-epileptic drugs that induce hepatic oxidative enzymes result in increased valproic acid clearance; this increased clearance rate requires a higher dose to maintain effective therapeutic levels.[14]

SPECIFIC PERFORMANCE CHARACTERISTICS

Assay Range

The linear range of the assay is 12.5 to 150.0 µg/mL (86.6 to 1,039.5 µmol/L).

Linearity

Dilutions of the REF 1E13-02 highest calibrator were prepared to span the entire assay range. Ten replicates of each dilution were assayed and the mean concentration was compared with the expected concentration based on the Clinical and Laboratory Standards Institute (CLSI) protocol EP6-A.[18]

Acceptance criteria: ± 10% for concentrations > 25.0 µg/mL or ± 3.0 µg/mL at concentrations ≤ 25.0 µg/mL

Accuracy by Recovery

A study was conducted in which each level of REF 1E13-02 calibrator was diluted with an equal volume of the next lower calibrator to create samples with midpoints between the calibrator levels. Samples were assayed in triplicate, and the percent recovery was calculated according to the following equation:

$$\% \text{ Recovery} = \frac{\text{Mean recovered concentration}}{\text{Expected concentration}} \times 100$$

Acceptance criteria: ± 10% or 3.0 µg/mL

Expected Concentration		Mean Recovered Concentration		Recovery*
(µg/mL)	(µmol/L)	(µg/mL)	(µmol/L)	(%)
18.75	129.9	19.10	132.36	102
37.50	259.9	37.60	260.57	100
75.00	519.8	78.41	543.38	105
125.00	866.3	122.52	849.06	98

*Calculation based on conventional units (µg/mL).

Limit of Quantitation (LOQ)

The LOQ for the MULTIGENT Valproic Acid assay was calculated to be 6.0 µg/mL (41.6 µmol/L). LOQ is defined as the concentration at which the CV is ≤ 20% and the recovery is within ± 10%.

SPECIFIC PERFORMANCE CHARACTERISTICS (Continued)

Interfering Substances

Potential interference in the MULTIGENT Valproic Acid assay from bilirubin, hemoglobin, and Intralipid is ≤ 10% at the interferent levels indicated below. A study based on guidance from CLSI protocol NCCLS EP7-P[19] was performed using the MULTIGENT Valproic Acid assay. Specimens with approximately 90.0 µg/mL (623.7 µmol/L) valproic acid were supplemented with the potentially interfering compounds.

	Interferent Concentration	
Interfering Substance	Conventional Units	SI Units
Bilirubin	20 mg/dL	342 µmol/L
Hemoglobin	1,000 mg/dL	10 g/L
Intralipid	2,000 mg/dL	22.6 mmol/L

As with any assay employing mouse antibodies, the possibility exists for interference by human anti-mouse antibodies (HAMA) in the sample, which could cause falsely elevated results.

Specificity

Cross reactivity was tested for the major metabolite of valproic acid (3-keto valproic acid), the minor metabolites (2-*n*-propylglutaric acid, 2-*n*-propyl-4-pentenoic acid, and 2-ethyl-2-phenylmalonamide), and other medications routinely administered with valproic acid to determine whether these compounds affect the quantitation of valproic acid concentrations on the MULTIGENT Valproic Acid assay. High concentrations of these compounds were spiked into a serum pool (control) containing a therapeutic level of valproic acid. The samples were assayed and the valproic acid concentrations of the spiked samples were compared to the control serum. Cross-reactivity was calculated using the following equation:

$$\% \text{ Cross-Reactivity} = \frac{(\text{VPA Conc.* in Spiked Sample} - \text{VPA Conc. in Control})}{\text{VPA Conc. in Control}} \times 100$$

Compound	Conc. of Cross-Reactant (µg/mL)	VPA Conc. in Control Serum (µg/mL)	VPA Conc. in Spiked Sample (µg/mL)	Cross-Reactivity (%)
Carbamazepine	140	95.35	94.27	none detected
Carbamazepine-10,11-epoxide	140	95.35	94.78	none detected
Clonazepam	1.2	95.35	95.49	0.2
Diazepam	25	95.35	93.46	none detected
2-ethyl-2-phenylmalonamide	100	95.35	94.72	none detected
Ethosuximide	1000	95.35	95.96	0.6
3-keto valproic acid	16.67	92.86	93.66	0.9
Phenobarbital	400	95.35	98.40	3.2
Phenytoin	200	95.35	95.79	0.5
Primidone	120	95.35	95.11	none detected
2-*n*-propyl-4-pentenoic acid	100	95.35	126.48	32.7
2-*n*-propylglutaric acid	100	95.35	101.98	7.0
Salicylate	100	95.35	93.86	none detected

* Conc. = Concentration

SPECIFIC PERFORMANCE CHARACTERISTICS (Continued)

Precision

Precision was determined as described in CLSI protocol NCCLS EP5-T2.[20]

A tri-level human serum based commercial control containing valproic acid was used in the study. Each level of control was assayed in duplicate twice a day for 20 days. Each of the runs per day was separated by at least two hours. The means were calculated, and the within run, between day, and total SD and %CV were calculated. Data from this study are summarized below.

Acceptance criteria: ≤ 5% total CV

Control		Level 1	Level 2	Level 3
N		80	80	80
Mean (µg/mL)		32.81	70.56	116.40
Within Run	SD	0.360	0.729	2.214
	%CV	1.10	1.09	1.90
Between Day	SD	0.512	0.637	1.598
	%CV	1.56	0.90	1.37
Total	SD	0.626	0.987	3.125
	%CV	1.91	1.40	2.68

Method Comparison

Correlation studies were performed based on guidance from CLSI protocol NCCLS EP9-A.[21]

Patient samples consisting of serum and sodium heparinized plasma were used. Results from the MULTIGENT Valproic Acid assay on the AEROSET System were compared with the results from commercially available fluorescence polarization immunoassay (FPIA) and enzyme immunoassay methodologies. Data from this study are summarized below.

A study was performed using 67 plasma samples that were assayed in duplicate. Results from the MULTIGENT Valproic Acid assay on an ARCHITECT *c* System were compared with the results from the MULTIGENT Valproic Acid assay on the AEROSET System. Data from this study are summarized below.

	AEROSET vs. FPIA	AEROSET vs. Enzyme Immunoassay	ARCHITECT vs. AEROSET
N	53	53	67
Y-Intercept	3.58	4.22	-0.98
Slope	0.955	0.991	1.024
Correlation Coefficient	0.9928	0.9977	0.9998
Range (µg/mL)	13.7 to 122.6	9.7 to 130.7	13.9 to 127.5
Bias	< 5%	< 10%	< 5%

BIBLIOGRAPHY

1. Pinder RM, Brogden RN, Speight TM, et al. Sodium valproate: a review of its pharmacological properties and therapeutic efficacy in epilepsy. *Drugs* 1977;13:81–123.
2. Simon D, Penry JK. Sodium di-*N*-propylacetate (DPA) in the treatment of epilepsy. A review. *Epilepsia* 1975;16:549–73.
3. Bruni J, Wilder BJ. Valproic acid. Review of a new antiepileptic drug. *Arch Neurol* 1979;36:393–8.
4. Koch-Weser J, Browne TR. Drug therapy: Valproic acid. *N Engl J Med* 1980;302:661–6.
5. Coulter DL, Wu H, Allen RJ. Valproic acid therapy in childhood epilepsy. *JAMA* 1980;244:785–8.
6. Sherard ES Jr, Steiman GS, Couri D. Treatment of childhood epilepsy with valproic acid: results of the first 100 patients in a 6-month trial. *Neurology* 1980;30:31–5.
7. Redenbaugh JE, Sato S, Penry JK, et al. Sodium valproate: pharmacokinetics and effectiveness in treating intractable seizures. *Neurology* 1980;30:1–6.
8. Dren AT, Giardina WJ, Hagen NS. Valproic acid (Depakene): a review of pharmacological properties and clinical uses. In: Goldberg ME, editor. *Pharmacological and Biochemical Properties of Drug Substances*. Washington, DC: American Pharmaceutical Association; 1979:58–97.
9. US Department of Labor, Occupational Safety and Health Administration. 29 CFR Part 1910.1030. *Bloodborne Pathogens*.
10. US Department of Health and Human Services. *Biosafety in Microbiological and Biomedical Laboratories*, 5th ed. Washington, DC: US Government Printing Office, December 2009.
11. World Health Organization. *Laboratory Biosafety Manual*, 3rd ed. Geneva: World Health Organization, 2004.
12. Clinical and Laboratory Standards Institute (CLSI). *Protection of Laboratory Workers From Occupationally Acquired Infections; Approved Guideline–Fourth Edition.* CLSI Document M29-A4. Wayne, PA: CLSI; 2014.
13. Dasgupta A, Dean R, Saldana S, et al. Absorption of therapeutic drugs by barrier gels in serum separator blood collection tubes. *Am J Clin Pathol* 1994;101:456–61.
14. Moyer TP. Therapeutic Drug Monitoring. In: Burtis CA, Ashwood ER, editors. *Tietz Textbook of Clinical Chemistry*, 3rd ed. Philadelphia, PA: WB Saunders; 1999:876.
15. Burtis CA, Ashwood ER, Bruns DE, editors. *Tietz Textbook of Clinical Chemistry and Molecular Diagnostics*, 4th ed. St Louis, MO: Elsevier Saunders; 2006:2315.
16. Lewis JR. Valproic acid (Depakene). A new anticonvulsant agent. *JAMA* 1978;240:2190–2.
17. Adams DJ, Luders H, Pippenger C. Sodium valproate in the treatment of intractable seizure disorders: a clinical and electroencephalographic study. *Neurology* 1978;28:152–7.
18. Tholen DW, Kroll M, Astles JR, et al. *Evaluation of the Linearity of Quantitative Measurement Procedures: A Statistical Approach; Approved Guideline (EP6-A)*. Wayne, PA: The National Committee for Clinical Laboratory Standards, 2003.
19. Powers DM, Boyd JC, Glick MR, et al. *Interference Testing in Clinical Chemistry; Proposed Guideline (EP7-P).* Villanova, PA: The National Committee for Clinical Laboratory Standards, 1986.
20. Kennedy JW, Carey RN, Coolen RB, et al. *Evaluation of Precision Performance of Clinical Chemistry Devices—Second Edition; Tentative Guideline (EP5-T2).* Villanova, PA: The National Committee for Clinical Laboratory Standards, 1992.
21. Kennedy JW, Carey RN, Coolen RB, et al. *Method Comparison and Bias Estimation Using Patient Samples; Approved Guideline (EP9-A).* Wayne, PA: The National Committee for Clinical Laboratory Standards, 1995.

TRADEMARKS

Valproic Acid Serum/Plasma—Conventional and SI Units

Configure assay parameters — General

● General O Calibration O SmartWash O Results O Interpretation

Assay: **VPA** Type: **Photometric** Version: †
Number: **2836**
Run controls for onboard reagents by:†† **Lot**

● Reaction definition O Reagent / Sample O Validity checks

Reaction mode: **Rate up**

	Primary		Secondary		Read times
Wavelength:	**604**	/	**None**	Main:	**19 – 24**
Last required read:	**24**			Flex:	___ – ___
Absorbance range:	___ – ___			Color correction:	___ – ___
Sample blank type:	**None**				

O Reaction definition ● Reagent / Sample O Validity checks

						R1	R2
Reagent:	**VPA00**				Reagent volume:	**240**	**60**
Diluent:	**Saline**				Water volume:	___	___
Diluent dispense mode:	**Type 0**				Dispense mode:	**Type 0**	**Type 0**

Dilution name	Sample	Diluted sample	Diluent	Water	Dilution factor	Default dilution
STANDARD :	**4.0**	___	___	___ =	**1:1.00**	●
Dil 1 :	**25.0**	**4.0**	**75**	___ =	**1:4.00**	O
Dil 2 :	**25.0**	**4.0**	**175**	___ =	**1:8.00**	O

O Reaction definition O Reagent / Sample ● Validity checks

Reaction check: **None**

Rate linearity %: ___

Configure assay parameters — Calibration

O General ● Calibration O SmartWash O Results O Interpretation

Assay: **VPA** Calibration method: **Spline**

● Calibrators O Volumes O Intervals O Validity checks

Calibrator set: **TDMMCC§**
Replicates: **2** [Range 1 – 3]

Calibrator level:	Concentration:‡
Blank: **TDMMCC1§**	0.0‡‡
Cal 1: **TDMMCC2§**	‡‡
Cal 2: **TDMMCC3§**	‡‡
Cal 3: **TDMMCC4§**	‡‡
Cal 4: **TDMMCC5§**	‡‡
Cal 5: **TDMMCC6§**	‡‡

O Calibrators ● Volumes O Intervals O Validity checks

Calibrator: **TDMMCC§**

Calibrator level		Sample	Diluted sample	Diluent	Water
Blank:	**TDMMCC1§**	**4.0**	___	___	___
Cal 1:	**TDMMCC2§**	**4.0**	___	___	___
Cal 2:	**TDMMCC3§**	**4.0**	___	___	___
Cal 3:	**TDMMCC4§**	**4.0**	___	___	___
Cal 4:	**TDMMCC5§**	**4.0**	___	___	___
Cal 5	**TDMMCC6§**	**4.0**	___	___	___

O Calibrators O Volumes ● Intervals O Validity checks

Calibration intervals:
Full interval: **648** (hours)
Calibration type:
Adjust type: **None**

O Calibrators O Volumes O Intervals ● Validity checks

Blank absorbance range: _____ – _____
Span: **Blank** – **Blank**
Span absorbance range: _____ – _____
Expected cal factor: **0.00**
Expected cal factor tolerance %: **0**

Configure assay parameters — SmartWash

O General O Calibration ● SmartWash O Results O Interpretation

Assay: **VPA**

COMPONENT	REAGENT / ASSAY	WASH	Volume	Replicates
Cuvette	**Trig***	**10% Detergent B**	**345**	

***Not required for ARCHITECT Software version 7.00 and above.**

Valproic Acid Serum/Plasma—Conventional Units

Configure assay parameters — Results

O General O Calibration O SmartWash ● Results O Interpretation

Assay: **VPA** Assay number: **2836**
Dilution default range: Result units: **µg/mL**
Low-Linearity: **12.5**
High-Linearity: **150.0**
Gender and age specific ranges:**

GENDER	AGE (UNITS)	NORMAL	EXTREME
Either	**0 – 130 (Y)**	**50.0 – 100.0**	

Configure result units

Assay: **VPA**
Version: †
Result units: **µg/mL**
Decimal places: **1** [Range 0 – 4]
Correlation factor: **1.0000**
Intercept: **0.0000**

Valproic Acid Serum/Plasma—SI Units

Configure assay parameters — Results

O General O Calibration O SmartWash ● Results O Interpretation

Assay: **VPA** Assay number: **2836**
Dilution default range: Result units: **µmol/L**
Low-Linearity: **86.6**
High-Linearity: **1039.5**
Gender and age specific ranges:**

GENDER	AGE (UNITS)	NORMAL	EXTREME
Either	**0 – 130 (Y)**	**346.5 – 693.0**	

Configure result units

Assay: **VPA**
Version: †
Result units: **µmol/L**
Decimal places: **1** [Range 0 – 4]
Correlation factor: **1.0000**
Intercept: **0.0000**

† Due to differences in instrument systems and unit configurations, version numbers may vary.
†† Parameter is available in ARCHITECT Software version 7.00 and above.
§ If REF 5P04-01 TDM MCC is not available, use REF 1E13-02 MULTIGENT Valproic Acid Calibrators. The corresponding Calibrator set name and Calibrator name are VPACal. Under Calibrator level, the Blank through Cal5 is VPACal1 thru VPACal6.
‡ Displays the number of decimal places defined in the decimal places parameter field.
‡‡ Refer to the concentration specified on calibrator labeling or value sheet. These values are defined on the Configure calibrator set screen.
** User defined.

Key to Symbols

CAL 1	Calibrator 1
CAL 1-6	Calibrators 1 through 6
CONTAINS: AZIDE	Contains sodium azide. Contact with acids liberates very toxic gas.
DISTRIBUTED IN THE USA BY	Distributed in the USA by
EC REP	Authorized Representative in the European Community
FOR USE WITH	Identifies products to be used together
INFORMATION FOR USA ONLY	Information needed for United States of America only
IVD	*In Vitro* Diagnostic Medical Device
LOT	Batch code/Lot number
PRODUCT OF USA	Product of USA
R1	Reagent 1
R2	Reagent 2
REF	Catalog number/List number
SN	Serial number
	Consult instructions for use
	Manufacturer
	Sufficient for
	Temperature limitation
	Use by/Expiration date

Customer Service: **Contact your local representative or find country-specific contact information on www.abbottdiagnostics.com.**


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