



LAZAR



+1-814-870-9309 | +1-845-580-6265 | techsupport@lazarlab.com

Arrow™ Complete Micro Measurement Laboratory

The Ultimate Solution for Micro Research
on Almost Any Budget

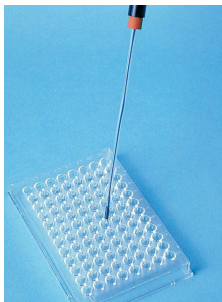
Quickly and easily measure micro pH, Redox, O₂, H₂S, Nitric Oxide, Conductivity, Sodium, Calcium, Potassium, and other ions down to the size of a droplet (10 µl)

The Arrow™ Complete Micro Measurement Laboratory includes:

- Advanced portable data analyzer
- Complete software application suite for graphing, monitoring, and recording micro measurements directly to your PC
- Micro measurement electrodes of your choice

Electrodes are designed with unique Rapid Research Architecture and feature:

- Entirely Nonglass, Unbreakable, and Flexible body
- Measure smaller than a single drop of sample (10 µl)
- Complete with built-in reference electrode
- Work with all standard data analyzers already in your lab
- Significantly reduce consumption of valuable sample
- Dip-style and flowcell configurations
- Save valuable time and money by avoiding the need to invest in expensive and complex capital equipment



96 Wells



Flow-through Cells



PCR & Centrifuge Tubes



Cuvettes

Micro Measurement Electrodes (down to 10µl)

Electrode type	Cat. No.	Measurement Range (M)	Concentration Range (PPM)	pH Range	Temp. Range (°C)	Interferences
pH	PHR-146	2 to 13	N/A	2 to 13	0 to 65c	N/A
Redox	ORP-146	+/-1900 mV	N/A	2 to 13	0 to 65c	N/A
Bromide	LIS-146BRCM	5 ⁶ to 1.0	0.4 to 79,000	2 to 14	0 to 80	S-, I-, CN-, high levels of CL- and NH ₃
H ₂ S/Sulfide	LIS-146SFDM	1 ⁷ to 1.0	AG = 0.01 to 107,900 S = 0.003 to 32,100	2 to 12	0 to 80	Hg+2, Hg+
Chloride	LIS-146CLCM	5 ⁶ to 1.0	1.8 to 35,500	2 to 12	0 to 80	S-2, I-, CM-, Br-
Copper	LIS-146CUCM	1 ⁸ to 1 ¹	0.0006 to 6,350	2 to 12	0 to 80	Ag+, Hg+2
Cyanide	LIS-146CNCM	5 ⁶ to 1 ²	0.13 to 260	11 to 13	0 to 80	S-2, I-, Br-, Cl-
Iodide	LIS-146ICM	5 ⁸ to 1.0	0.006 to 127,000	0 to 14v	0 to 80	S-2, CN-, Br-, Cl-
Silver	LIS-146AGSCM	1 ⁷ to 1.0	AG = 0.01 to 107,900 S = 0.003 to 32,100	2 to 12	0 to 80	Hg+2, Hg+
Calcium*	LIS-146CACM	5 ⁶ to 1.0	0.2 to 40,000	3 to 10	0 to 50	Pb+2, Hg+2, Cu+2, Ni+2
Potassium*	LIS-146KCM	1 ⁷ to 1.0	0.04 to 39,000	2 to 12	0 to 50	Cs+, NH ₄ +
Nitrate*	LIS-146NOCM	7 ⁶ to 1.0	0.6 to 62,000	2.5 to 11	0 to 50	ClO ₄ -, I-, CN-, BF ₄ -
Conductivity	COND-158BL	0 to 100,000 microsiemens/cm				

* includes required separate reference electrode

Specialty Micro Electrodes (Glass Body)

Electrode type	Cat. No.	Measurement Range (M)	Concentration Range (PPM)	pH Range	Temp. Range (°C)	Interferences
Nitric Oxide	ISM-146NOXM					Inquire
Ammonia	LGS-136NHM	5 ⁷ to 1.0	0.01 to 17,000	above 11	0 to 50	volatile aminues
Carbon Dioxide	LGS-136COM	n ² to n ⁴	4.4 to 440 (above 440 - inquire)	4.8 to 5.2 (3 to 11 - inquire)	0 to 50	Volatile weak acids
Sodium	LIS-146NACM	1 ⁶ to saturated	0.2 to 23,000	5 to 12	0 to 80	H+, K+, Li+, Ag+, Cs+, Tl+
Oxygen	DO-166MT-1S					Inquire
Hydrogen Peroxide	H2O2-166MT-1S					Inquire
Cd+2, F-, Pb+2, Water Hardness						Inquire

Specify dip-style or flow-through configuration when inquiring

Selected Research Papers using Arrow™ Micro Electrodes

Hydrogen Sulfide

H₂S in Horticultural Plants: Endogenous Detection by an Electrochemical Sensor, Emission by a Gas Detector, and Its Correlation with L-Cysteine Desulfhydrase (LCD) Activity – *International Journal of Molecular Sciences*

Inhibition of the 3-mercaptopyruvate sulfurtransferase - hydrogen sulfide system promotes cellular lipid accumulation – *GeroScience*

Uremic Toxin Indoxyl Sulfate Impairs Hydrogen Sulfide Formation in Renal Tubular Cells – *Antioxidants*

pH

Calcium glycerophosphate and fluoride affect the pH and inorganic composition of dual-species biofilms of *Streptococcus mutans* and *Candida albicans* – *Journal of Dentistry*

Biochar amendment improves shoot biomass of tomato seedlings and sustains water relations and leaf gas exchange rates under different irrigation and nitrogen regimes – *Agricultural Water Management*

ABA-mediated regulation of leaf and root hydraulic conductance in tomato grown at elevated CO₂ is associated with altered gene expression of aquaporins – *Horticulture Research*

Redox

Antimony release and volatilization from rice paddy soils: Field and microcosm study – *Science of The Total Environment*

The Effect of a Color Tattoo on the Local Skin Redox Regulatory Network: An N-of-1 Study – *Free Radical Research*

Altered muscle membrane potential and redox status differentiates two subgroups of patients with chronic fatigue syndrome – *Journal of Translational Medicine*

Nitric Oxide

Effects of dietary replacement of urea with encapsulated nitrate and cashew nut shell liquid on nutrient digestibility, nitrogen balance, and carcass characteristics in growing lambs – *Animal Feed Science and Technology*

Nanosized copper(ii) oxide/silica for catalytic generation of nitric oxide from S-nitrosothiols – *Journal of Materials Chemistry B*

Polymorphisms of the endothelial nitric oxide synthase gene in preeclampsia in a han chinese population. – *Gynecologic and Obstetric Investigations*

Dissolved Oxygen

Clockwise and counterclockwise hysteresis characterize state changes in the same aquatic ecosystem – *Ecology Letters*

Proteomic analyses of the oleaginous and carotenogenic yeast *Rhodotorula diobovata* across growth phases under nitrogen- and oxygen-limited conditions – *Journal of Biotechnology*

The mitochondrial phosphate carrier TbMCP11 is essential for mitochondrial function in the procyclic form of *Trypanosoma brucei* – *Molecular and Biochemical Parasitology*

Calcium, Potassiums, Chloride, and Other Ions

Reciprocal Control of Pyruvate Dehydrogenase Kinase and Phosphatase by Inositol Phosphoglycans – *The Journal Of Biological Chemistry*

Inhibition of Fungal Growth and Induction of a Novel Volatilome in Response to *Chromobacterium vaccinii* Volatile Organic Compounds – *Frontier in Microbiology*

Somatostatin secretion by Na⁺-dependent Ca²⁺-induced Ca²⁺ release in pancreatic delta cells – *Nature Metabolism volume*

Lazar Research Laboratories, Inc. was

established in 1976 and specializes in providing state-of-the-art micro sensors and related analyzers and monitors for analyzing very small samples for biomedical research at universities and the pharmaceutical industry. These unique sensors can measure pH, various ions such as calcium, potassium, and sodium, dissolved oxygen, ammonia, and carbon dioxide in samples as small as only a few microliters, which is smaller than a drop of liquid. The sensors are used in various biological fluids such as whole blood, plasma, serum, urine, saliva, plant sap and fluids, and also tissue homogenates and cell cultures. Lazar products are sold all over the world.



DRUG DEVELOPMENT

PLANT AND SOIL BIOLOGY



BIOMEDICAL RESEARCH

FARMING AND FOOD INDUSTRY



MARINE AND ALGAE RESEARCH





Contact us today for all your micro measurement needs



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Research Laboratories, Inc.

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 www.shelfscientific.com