Reactive Oxygen and Nitrogen Species (RONS) Assay Kits

Services

Compound testing

Biomarker analysis

Custom assay development

RONS Assay Kits

LUMI-NO (BL-2 Nitric Oxide)

LUMI-ONOO (BL-3 Peroxynitrite)

PeroxyLum (BL-1 H_2O_2)

Chemiluminescence-focused

We specialize in chemiluminescent assays/methods for detection and imaging of reactive sulfur, oxygen, and nitrogen species.

Chemiluminescence offers superior performance in cellular assays and biomarker analysis. Autofluorescence is eliminated and no genetic modification is needed.

Demonstrate biomarker concentrations associated with drug efficacy and identify mechanisms of action.

BioLum SCIENCES

LUMI-NO (BL-2 Nitric Oxide) Assay Kit

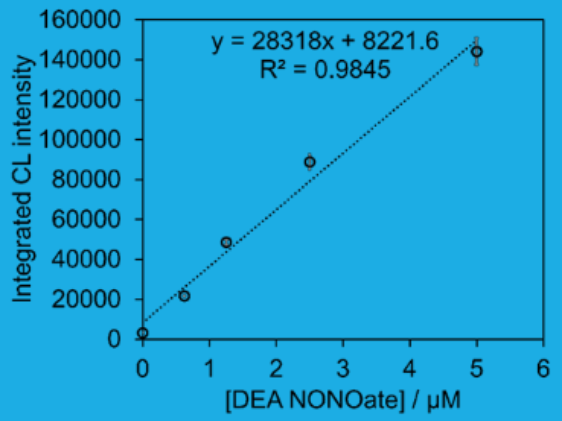
Features

USE	Detection of nitric oxide (NO)
SAMPLE	Live Cells, Buffered Systems
SENSITIVITY	<25 nM (concentration of NO donor DEA NONOate)
RANGE	25 nM–25 µM (concentration of NO donor DEA NONOate)
SAMPLES/KITS	100 tests (96-well plate format)
READOUT	Luminescence: open filter
PURPOSE	For Research Use Only. Not for use in diagnostic procedures.

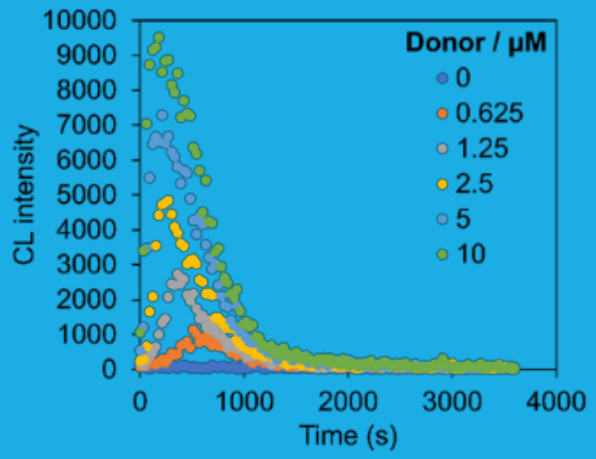
Scientific Background

Nitric oxide (NO) is a ubiquitous signaling molecule important in cardiovascular disease, inflammation, cancer, neurodegeneration, pain, and other areas. Nitric oxide is generated from three nitric oxide isoforms, endothelial nitric oxide synthase (eNOS), inducible nitric oxide synthase (iNOS), neuronal nitric oxide synthase (nNOS), as well as through nitrite reduction. Signaling proceeds through canonical activation of soluble guanylyl cyclase (sGC) and non-canonical post-translational modifications including *S*-nitroso formation.

Response Curve



Raw Kinetic Traces



LUMI-ONOO (BL-3 Peroxynitrite) Assay Kit

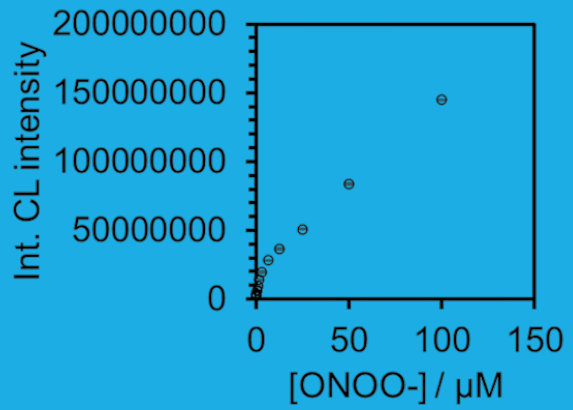
Features

USE	Detection of peroxynitrite ($ONOO^-$)
SAMPLE	Live Cells, Buffered Systems
SANSITIVITY	< 50 nM (bolus synthetic $ONOO^-$)
RANGE	100 nM – 100 µM (bolus synthetic $ONOO^-$)
SAMPLES/KIT	100 tests (100 wells in 96-well plate format)
READOUT	Luminescence: open filter
PURPOSE	For Research Use Only. Not for use in diagnostic procedures.

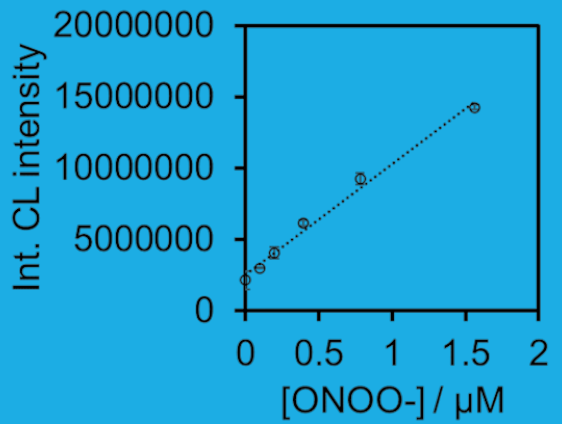
Scientific Background

Peroxynitrite ($ONOO^-$) is formed from the diffusion-limited reaction between nitric oxide and superoxide and mediates many negative effects in cardiovascular disease, inflammation, cancer, neurodegeneration, pain, and other areas. Peroxynitrite is a strong oxidant that can further decompose into highly reactive oxygen and nitrogen species that can damage DNA, nitrate proteins, oxidize lipids, and destroy invading pathogens.

High Concentration Response Curve



Low Concentration Response Curve



PeroxyLum (BL-1 Hydrogen peroxide)

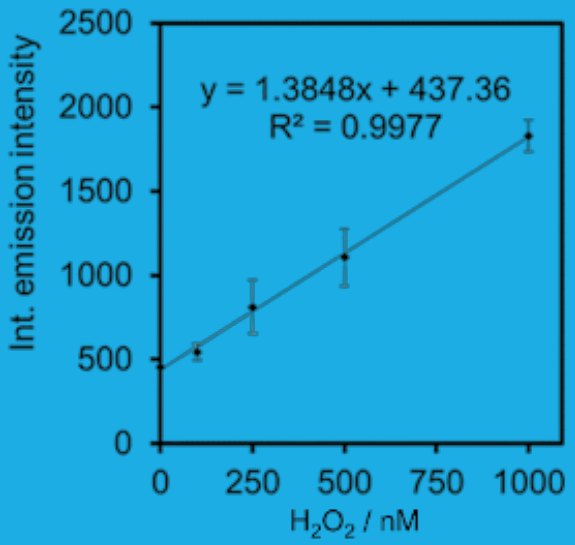
Features

USE	Detection of hydrogen peroxide (H_2O_2)
SAMPLE	Exhaled Breath Condensate, Other Aqueous Samples
SENSITIVITY	<100 nM
RANGE	100 nM – 1 µM
SERVICE	Laboratory measurement of shipped EBC samples.
READOUT	Luminescence
PURPOSE	For Research Use Only. Not for use in diagnostic procedures.

Scientific Background

Hydrogen peroxide (H_2O_2) is produced during inflammation by eosinophils and neutrophils both to combat invading pathogens and mediate cell signaling. Patients with asthma and COPD have increased concentrations of hydrogen peroxide in the exhaled breath condensate and the levels of hydrogen peroxide track with disease severity and have been shown to report on therapeutic efficacy. BioLum offers non-diagnostic services to measure hydrogen peroxide in collected exhaled breath condensate samples.

Response Curve



Order Form

Reach out or place an order here if you are interested in our assays or services. We offer sample kits for first time orders.

Contact Us

BioLum Sciences
3060 Pegasus Park Dr, Bldg. 6
Dallas, TX, 75247
720-985-3131
jpreynolds@biolumsciences.com

Oxidative stress

Endothelial Dysfunction

Inflammation

Cell Signaling

Stress

Visit us on the Web:
www.biolumsciences.com