

MOLECULAR

**SIGNATURE®
Nitrotyrosine
ELISA Kit****91 /100 9 Citations**

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Colorimetric detection of Nitrotyrosine

Catalog No. SKT-126

Product Name

Nitrotyrosine ELISA Kit

Description

Colorimetric detection of Nitrotyrosine

Species Reactivity

Species Independent

Platform

Microplate

Sample Types

Cell lysates, Plasma, Serum, Urine

Detection Method

Colorimetric Assay

Assay Type

Competitive ELISA (Enzyme-linked Immunosorbent Assay)

Utility

ELISA kit used to quantitate Nitrotyrosine in samples.

Sensitivity

50 nM

Assay Range

62.5 - 8000 nM

Precision

Intra-Assay Precision: Three samples of known concentration were assayed thirty times on one plate. The intra-assay coefficient of variation of the Nitrotyrosine ELISA has been determined to be <10%. **Inter-Assay Precision:** Three samples of known concentration were assayed thirty times in three individual assays. The inter-assay coefficient of variation of the Nitrotyrosine ELISA has been determined to be <15%.

Incubation Time

1 hour

Number Of Samples

38 samples in duplicate

Other Resources

Kit Booklet Lot. No. SN004002 , Kit Booklet , Kit Booklet Lot. No. SN189203 , MSDS , Calculations Worksheet

Field Of Use

Not for use in humans. Not for use in diagnostics or therapeutics. For in vitro research use only.

Properties

Storage Temperature

4°C and -20°C

Shipping Temperature

Blue Ice

Product Type

ELISA Kits

Assay Overview

1. Prepare standard and samples in the Sample and Standard Diluent. 2. Add 50 µL of prepared standards and samples in triplicate to appropriate wells. 3. Add 50 µL of the diluted antibody preparation to the appropriate wells. 4. Cover plate with Plate Cover and incubate at room temperature (20-25°C) for 1 hour. 5. Wash plate 4 times with 1X Wash Buffer. 6. Add 100 µL of TMB Substrate to each well. 7. Cover plate and develop the plate in the dark at room temperature for 30 minutes. 8. Add 100 µL of Stop Solution to each well. 9. Measure absorbance on a plate reader at 450 nm. 10. Plot the standard curve and calculate sample concentrations.

Kit Overview

Component No.

Item

Quantity / Size**SKC-126A**

Nitrosylated BSA Coated Plate

1 Plate

SKC-126C

Nitrotyrosine Standard

1 vial/110µl

SKC-126F

Nitrotyrosine HRP Conjugated Monoclonal Antibody

1 vial/75µl

SKC-0001

Sample and Standard Diluent (Red)

1 vial/50mL

SKC-0002

Nitrotyrosine Antibody Diluent (Blue)

1 vial/13mL

SKC-0003

Wash Buffer Concentrate (10X)

1 vial/ 50mL

SKC-0004

TMB Substrate

1 vial/13mL

SKC-0005

Stop Solution

1 vial/13mL

SKC-0009

Plate Cover

2

Cite This Product

Nitrotyrosine ELISA Kit (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SKT-126)

Biological Description

Alternative Names

3 Nitrotyrosine, 3-NT, 3-Nitro-L-tyrosine, 3-Nitrotyrosine, 3NT, Nitro tyrosine

Research Areas

Alzheimer's Disease, Cancer, Cell Signaling, Neurodegeneration, Neuroscience, Nitration, Oxidative Stress, Parkinson's Disease, Post-translational Modifications, Protein Oxidation

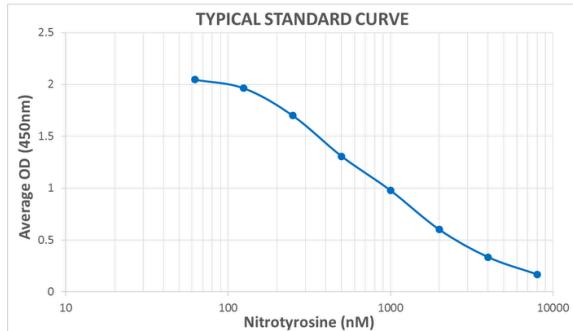
Scientific Background

Nitrotyrosine is a stable biomarker formed by the nitration of tyrosine residues in proteins, typically through the action of reactive nitrogen species such as peroxynitrite. It serves as a reliable indicator of nitric oxide (NO)-dependent oxidative damage and chronic inflammation. Unlike transient NO metabolites, nitrotyrosine accumulates in tissues and circulates in the bloodstream, offering a longer-lasting signal of nitrosative stress.

In neuroscience, elevated nitrotyrosine levels have been detected in neuroinflammatory and neurodegenerative conditions, including Alzheimer's disease, Parkinson's disease, and multiple sclerosis. Its presence reflects oxidative damage to neuronal proteins, disruption of cellular signaling, and mitochondrial dysfunction—hallmarks of progressive neurodegeneration.

Because protein-bound nitrotyrosine is more stable than free NO metabolites, it provides a more accurate measure of sustained oxidative injury in the brain. Its detection in cerebrospinal fluid and brain tissue supports its use as a diagnostic and prognostic biomarker in neurological research.

Product Images



Typical Standard Curve for the Nitrotyrosine ELISA Kit (Enzyme-Linked Immunosorbent Assay) StressXpress® - SKT-126. Assay Type: Competitive ELISA. Detection Method: Colorimetric Assay. Assay Range: 62.5 – 8000 nM.

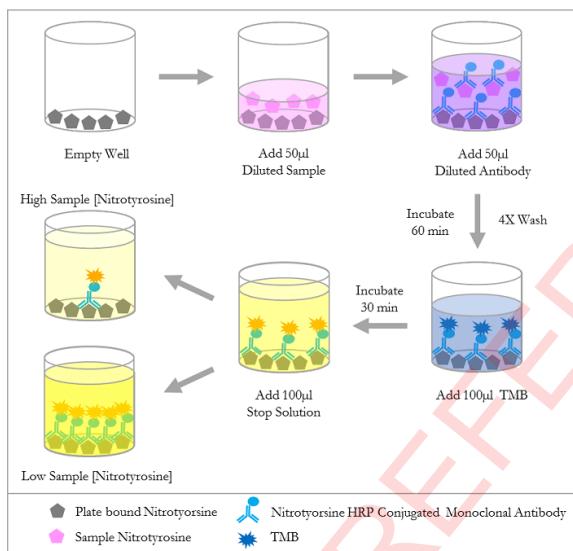


Diagram of the Competitive ELISA

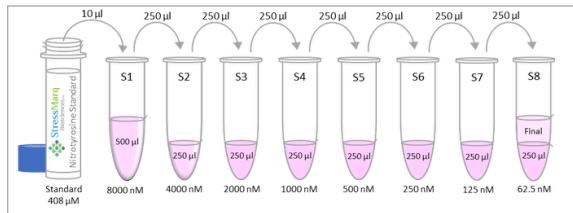


Diagram of the Preparation of Nitrotyrosine Standards

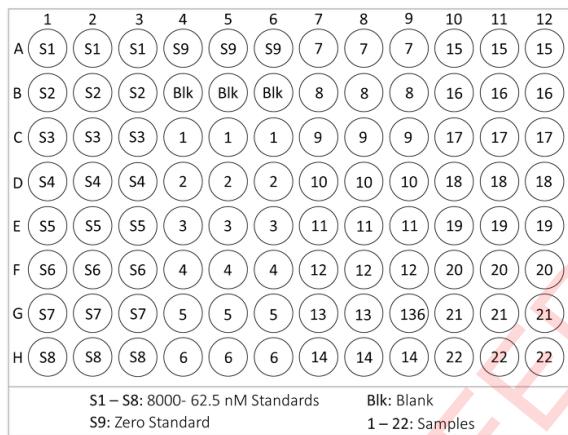


Diagram of the Triplicate Sample Plate Format

Reviews

Based on validation through cited publications.



StressMarq Biosciences

October 13, 2017:

Product Citations

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x

91/100 Bioz Rating

9 Citations

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- E
- E

Bioz AI Summary: The Nitrotyrosine ELISA Kit from StressMarq has been

Search term

Techniques ▼

- Search for Techniques
- Enzyme-linked Immunosorbent Assay (ELISA)
- Marker (MARK)
- Concentration Assay (CO-A)
- TBARS Assay (TBARS)
- Activity Assay

Cited 6 times 1)

Differential Modulation of Markers of Oxidative Stress and DNA Damage in Arterial Hypertension.

Binding Assay, Moritz Kreutzmann, Bettina J Kraus, ..., Nicole Schupp

Antioxidants (Basel, Switzerland) | 2023 Nov 04 | 38001818 | [Read Article](#) | [Bioz AI Brief](#)

"3-Nitrotyrosine Assay marker of nitrosative stress, 3-nitrotyrosine in plasma was measured with the Nitrotyrosine protocol (SIPROX) provided by the manufacturer." [More...](#)

SD Centrifugation CO-A Clinical Proteomics

COMP

Molecular Medicine

- Clinical Proteomics (Clinical Proteomics)

Cited 8 times

Zinc deficiency impairs ischemia-induced angiogenesis (COLOR-A)

Takuya Isuruoka, Akio Kodama, ..., Rei Shibata

JVS-Vascular Science | 2021 Dec 08 | 35128488 | [Read Article](#) | [Bioz AI Brief](#) 

"tions (of these persistent species can be determined at 505 nm. The d-ROMs are expressed in Carratelli units, wh nitrotyrosine levels were measured using a nitrotyrosine enzyme-linked immunosorbent assay kit (**StressMarq B** instruction. [More...](#)

• Control

(CON)



• Fluorescence
(FLUOR)

Cited 8 times

Modification of plasma disequilibrium between pro- and anti-oxidants during the early phase resuscitation after MOD

Muhammad Shoaib, Nancy Kim, ..., Junhwan Kim

Molecular Medicine | 2021 Oct 24 | 34689738 | [Read Article](#) 

"sured at 535 nm, and 4-Hydroxyl-2-noneal (4-HNE) and neuron specific enolase (NSE) (MyBioSource, Inc., San Diego, CA, USA) concentration (**StressMarq Biosciences Inc.**, Victoria, BC, Canada) was measured with 1:2 plasma dilution and without other modification" [More...](#)

• Standard Deviation

(SD)



• Turbidimetric LAL Assay
(TURB-LAL-A)

Cited 17 times

Hepatitis C virus eradication by direct antiviral agents abates oxidative stress in patients with advanced liver cirrhosis

Federico Salomone, Salvatore Petta, ..., Antonio Craxi

Liver international : official journal of ... | 2021 Jun 21 | 32666695 | [Read Article](#)  | [Bioz AI Brief](#) 

".. (GPx) was measured through a colorimetric assay (#703102 Cayman Chemical), according to manufacturer's 3-nitrotyrosine (3-NT) 22 through an ELISA kit (#**SKT-126** from **StressMarq Biosciences**, Victoria, Canada).. Statistical analysis .." [More...](#)

[COLOR-A](#)

[MOD](#)

[SOFT](#)

[BIO-MRK](#)

Cited 6 times

The Effects of Beverage Intake after Exhaustive Exercise on Organ Damage, Inflammation and Oxidative Stress

Takaki Tominaga, Tsukasa Ikemura, ..., Javier González-Gallego

Antioxidants | 2021 May 28 | 34071378 | [Read Article](#)  | [Bioz AI Brief](#) 

".. concentration was measured using an Aldosterone Parameter Assay Kit (R&D Systems, Minneapolis, MN, USA) (**StressMarq Biosciences**, Victoria, BC, USA).. Urinary 8-hydroxy-2'-deoxyguanosine (8-OHdG) concentration .." [More...](#)

[TURB-LAL-A](#)

[ELISA](#)

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[BIND-A](#)

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