

Intracellular Nitric Oxide Synthase Detection Assay Kit ab211085

[1 References](#) [2 Images](#)

Overview

Product name	Intracellular Nitric Oxide Synthase Detection Assay Kit
Detection method	Fluorescent
Sample type	Adherent cells, Suspension cells
Assay type	Cell-based
Assay time	2h 00m
Species reactivity	Reacts with: Mammals, Other species
Product overview	Intracellular Nitric Oxide Synthase Detection Assay Kit (ab211085) provides a simple, non-radiometric method for detection of intracellular nitric oxide synthase (NOS) in cells. The kit uses a dye that reacts with intracellular nitric oxide (NO) produced by the cellular NOS in order to produce fluorescence (Ex/Em = 485/530 nm), which is proportional to the concentration of intracellular NOS. Fluorescence can be detected using a microplate reader or a fluorescence microscope.
Notes	<p>This product is manufactured by BioVision, an Abcam company and was previously called K207 EZCell™ Intracellular Nitric Oxide Synthase (NOS) Detection Kit. K207-100 is the same size as the 100 test size of ab211085.</p> <p>Nitric oxide synthases (EC 1.14.13.39) (NOSs) are a family of enzymes that catalyze the production of nitric oxide (NO) from L-arginine. Nitric oxide (NO) plays an important role in neurotransmission, vascular regulation, immune response and apoptosis. There are three isoforms of NOS: endothelial (eNOS), neuronal (nNOS), and inducible (iNOS). nNOS accounts for the production of NO in central nervous system, where NO participates in cell communication and information storage. eNOS produces NO in blood vessels and is involved with the regulation of vascular function. In contrast to other isoforms, iNOS is expressed de novo under oxidative stress conditions and produces large amounts of NO as a part of body's defense mechanism.</p>
Platform	Microplate reader, Fluorescence microscope

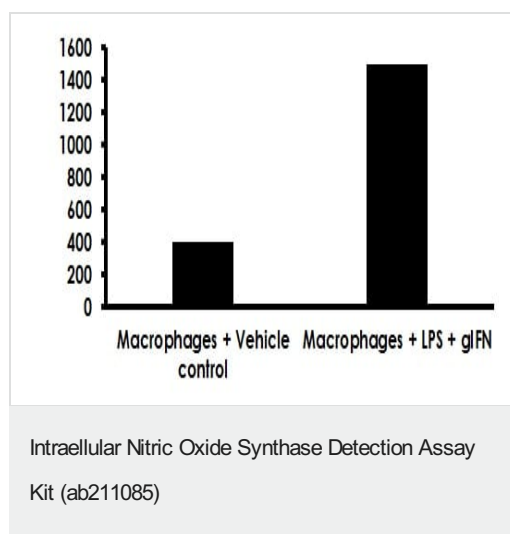
Properties

Storage instructions Store at -20°C. Please refer to protocols.

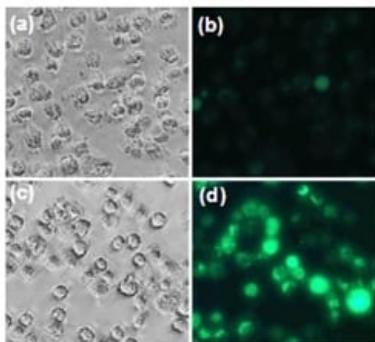
Components	100 tests
NOS Assay Buffer	1 x 100ml
Staining Dye (In DMSO)	1 x 20µl

Function	Produces nitric oxide (NO) which is a messenger molecule with diverse functions throughout the body. In the brain and peripheral nervous system, NO displays many properties of a neurotransmitter. Probably has nitrosylase activity and mediates cysteine S-nitrosylation of cytoplasmic target proteins such SRR.
Tissue specificity	Isoform 1 is ubiquitously expressed: detected in skeletal muscle and brain, also in testis, lung and kidney, and at low levels in heart, adrenal gland and retina. Not detected in the platelets. Isoform 3 is expressed only in testis. Isoform 4 is detected in testis, skeletal muscle, lung, and kidney, at low levels in the brain, but not in the heart and adrenal gland.
Sequence similarities	Belongs to the NOS family. Contains 1 FAD-binding FR-type domain. Contains 1 flavodoxin-like domain. Contains 1 PDZ (DHR) domain.
Domain	The PDZ domain in the N-terminal part of the neuronal isoform participates in protein-protein interaction, and is responsible for targeting nNos to synaptic membranes in muscles. Mediates interaction with VAC14.
Post-translational modifications	Ubiquitinated; mediated by STUB1/CHIP in the presence of Hsp70 and Hsp40 (in vitro).
Cellular localization	Cell membrane > sarcolemma. Cell projection > dendritic spine. In skeletal muscle, it is localized beneath the sarcolemma of fast-twitch muscle fiber by associating with the dystrophin glycoprotein complex. In neurons, enriched in dendritic spines.

Images



Intracellular Nitric Oxide Synthase Detection Assay Kit (ab211085). Nitric Oxide Synthase (NOS) detection in J744.1A macrophages using a microplate reader. Macrophages were cultured overnight and treated the next day with either vehicle control (no stimulation) or LPS (200 ng/mL) and IFN-gamma (100 ng/mL) for 24 hours. After washing with Assay Buffer, cells were stained with the Staining Dye for 1 hour at 37°C. The fluorescence signal was measured at Ex/Em = 485/530 nm.



Intraellular Nitric Oxide Synthase Detection Assay
Kit (ab211085)

Intraellular Nitric Oxide Synthase Detection Assay Kit (ab211085). Nitric Oxide Synthase (NOS) detection in J774.1A macrophages using a fluorescence microscope. Macrophages were cultured overnight and treated the next day with either vehicle control (no stimulation) or LPS (200 ng/mL) and IFN-gamma (100 ng/mL) for 24 hours. After washing with Assay Buffer, cells were stained with the Staining Dye for 1 hour at 37°C. Cells were imaged using a Nikon TiE microscope. Control cells (vehicle treated) are shown in the upper panel [(a), (b)]. Treated cells are shown in the lower panel [(c), (d)].

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