

Nitric Oxide Synthase (NOS) Assay Kit | NOS assay kit

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CATALOG # AAA52761	APPLICATIONS Flow Cytometry, Functional Assay
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PRODUCT SYNONYMS

Nitric Oxide Synthase (NOS); Nitric Oxide Synthase Assay Kit (NOS); Nitric Oxide Synthase Assay; NOS assay kit

PRODUCT SPECIFICATIONS

Sequence Length	1433
Sample	Cell culture
Excitation/Emission	488 nm / 515 nm
Applicable Applications for NOS assay kit	Fluorescence Plate Reader, FM (Fluorescence Microscopy), FCM/FACS (Flow Cytometry)
Preparation and Storage	Store at 2-8 degree C. Protect DAF-2DA dye from light.

ADDITIONAL INFORMATION

Related Product Information for NOS assay kit	Background: Nitric oxide synthases are a family of enzymes capable of catalyzing the production of nitric oxide (NO). NO is an important molecule that is involved in regulating a variety of cellular processes such as angiogenesis, peristalsis, and the immune response to invading pathogens^{1,2}. Reactive nitrogen species (RNS) are a family of antimicrobial molecules derived from NO and superoxide through the enzymatic activities of nitric oxide synthase (NOS)². Nitric Oxide Synthase Assay provides a good screening option for assessing the potency of nitrosative stress inhibitor and activator reagents, and will help to determine how oxidative and nitrosative stress modulates varied intracellular pathways. This kit assesses the overall intracellular levels of free nitric oxide and NOS using a Diaminofluorescein-2 Diacetate (DAF-2DA) dye^{3,4}. The kit provides all the essential reagents and an easy to follow protocol to assess changes in intracellular NO and NOS levels using flow cytometry, fluorescence plate reader, and fluorescence microscopy. The DAF-2DA dye quickly penetrates membrane structures and accumulates within the cell. Once inside the cell the diacetate groups on the DAF-2DA reagent are hydrolyzed by cytosolic esterases, allowing for the release and sequestration of DAF-2 inside the cell. Production of nitric oxide converts the nonfluorescent DAF-2 dye to its fluorescent triazole derivative, DAF-2T3-7. Nitric Oxide Synthase Assay requires minimal procedural steps and hands-on time to complete. Samples are stained for 1 hour with DAF-2DA dye. Cells are washed to remove excess dye, and then treated experimentally. Since the unbound reagent is non-fluorescent, subsequent wash steps are not required, thus simplifying the assay procedure. Following treatment, cells are ready for analysis by flow cytometry. Each kit will enable the assessment of up to 50 (0.5 mL) or 100 (0.25 mL) samples. For microscopy usage, Hoechst 33342 is included with the kit to concurrently label nuclei after labeling with DAF-2DA. DAF-2DA optimally excites at 488 nm, and has a peak emission at 515 nm. Hoechst 33342 can be seen using a UV-filter with excitation at 365 nm and emission at 480 nm.
Product Categories/Family for NOS assay kit	Cell Viability Assays; Oxidative Stress

NCBI AND UNIPROT INFORMATION

NCBI GI #	951319
NCBI GeneID	4842
NCBI Official Full Name	nitric oxide synthase
NCBI Official Synonym Full Names	nitric oxide synthase 1

NCBI Official Symbol	NOS1
NCBI Official Synonym Symbols	NOS; bNOS; nNOS; IHPS1; N-NOS; NC-NOS
NCBI Protein Information	nitric oxide synthase, brain

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/assay-kits/nitric-oxide-synthase-nos/52761>