

Reactive Oxygen Species (ROS) & Oxidative Stress Research Reagents

Nitric Oxide (NO) Generators

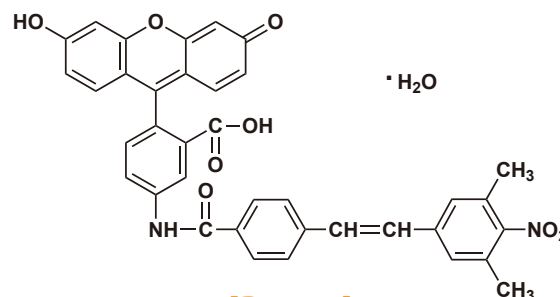
Nitric Oxide (NO) is produced from arginine and oxygen by nitric oxide synthase (NOS). NO plays an important role *in vivo*.

D3959 can release NO by two-photon excitation upon 720 nm pulse laser irradiation, which is a biocompatible long-wavelength light.

N. Miyata *et al.*, *J. Am. Chem. Soc.* **2009**, *131*, 7488.

Flu-DNB Monohydrate
N-Nitrosodiphenylamine
Ruthenium(II) Nitrosyl Chloride Monohydrate

5mg **[D3959]**
 25g / 500g **[D0899]**
 1g **[R0086]**



[D3959]

Nitroxyl (HNO) Generator

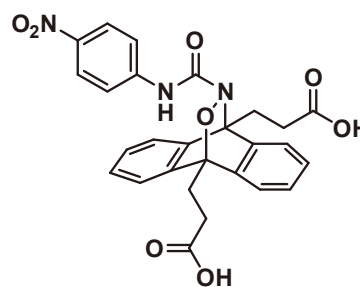
Nitroxyl (HNO), which is a one-electron reduced form of NO, is a reactive oxygen species that has recently received much attention.

D3929 is a photo-controllable HNO-releasing agent whose release of HNO is regulated by photoirradiation (330-380 nm). **D3929** is applicable to *in vitro* experiments because of its hydrophilicity.

N. Miyata *et al.*, *Chem. Commun.* **2010**, *46*, 3788.

9,10-Dihydro-9,10-bis(2-carboxyethyl)-N-(4-nitrophenyl)-10,9-(epoxyimino)anthracene-12-carboxamide

100mg **[D3929]**



[D3929]

Peroxynitrite (ONOO) Generator

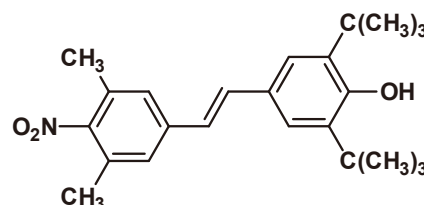
The association of nitroxyl (NO) with superoxide anion (O_2^-) brings about the generation of strongly-oxidative peroxynitrite ($ONOO^-$).

D3958 can generate peroxynitrite by photoirradiation (330-380 nm).

N. Miyata *et al.*, *Chem. Commun.* **2011**, *47*, 6449.

3,5-Di-tert-butyl-4-hydroxy-3',5'-dimethyl-4'-nitro-trans-stilbene

10mg **[D3958]**



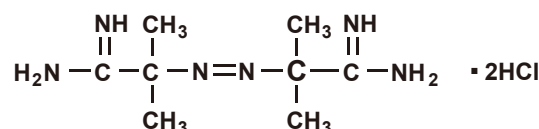
[D3958]

Peroxy Radical Generator

The carbon radicals of **A2735** generated by warming react with oxygen to give peroxy radicals. **A2735** is water-soluble.

Free. Radic. Biol. Med. **1999**, *27*, 612.

AAPH



[A2735]

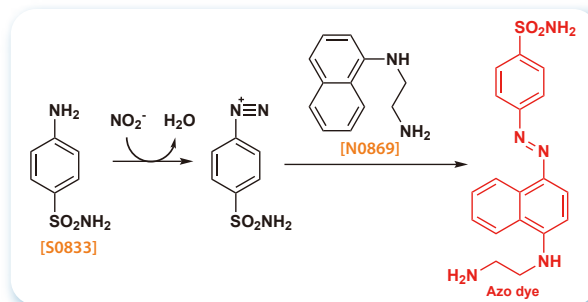
25g **[A2735]**

Reactive Oxygen Species (ROS) & Oxidative Stress Research Reagents

ROS Detection Reagents

for Griess Method

Nitric Oxide (NO), oxidized rapidly by oxygen, is converted to NO₂ and NO₃. Griess method is well-known as a NO₂ detection method.



Sulfanilamide

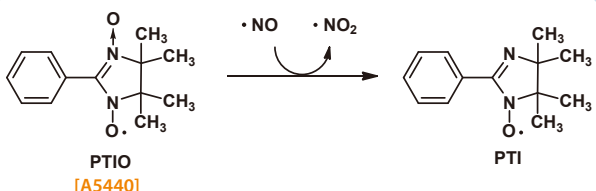
N-(1-Naphthyl)ethylenediamine Dihydrochloride

5g [S0833]

5g [N0869]

for ESR

PTIO, a spin trap agent that selectively oxidizes NO, converts NO to NO₂. The NO concentration can be determined spectroscopically from electron spin resonance (ESR) spectrum of PTIO and PTI.



PTIO

1g / 5g [A5440]

DMPO

1g / 5g [D2362]

DEPMPO

50mg [D3068]

PBN

1g / 5g [B1701]

3-Carboxy-PROXYL Free Radical 1g [C1406]

for Chemiluminescent Method

Luminol

1g / 25g [A5301]

MCLA

10mg [A5309]

Lucigenin

1g / 5g [B1203]

MMT

100mg / 1g [B4339]

for Chromogenic Method

DPPP

100mg / 1g [D2404]

Resazurin Sodium Salt

1g / 5g [R0203]

Resorufin

1g / 5g [R0012]

DPPH Free Radical

1g / 5g [D4313]

Sulfanilic Acid Sodium Salt Hydrate 5g [S0832]

2,3-Diaminonaphthalene 1g / 5g [D1045]

1-Naphthylamine

25g / 100g [N0052]

Sulfanilic Acid

25g / 500g [S0120]

Nitro Blue Tetrazolium

100mg / 1g [D0844]

Others

Trolox

1g / 5g [H0726]

L-Ascorbic Acid

25g / 500g [A0537]

Xanthine

25g [X0004]

Hypoxanthine

5g / 25g [H0311]

Nitric Oxide Synthase (NOS) Inhibitors

Aminoguanidine Sulfate Hydrate

25g / 500g [A0309]

L-Canavanine Sulfate Hydrate

100mg [C0018]

2,4-Diamino-6-hydroxypyrimidine

25g [D1321]

S-Ethylisothiourea Hydrobromide

25g / 100g [E0182]

Haloperidol

5g / 25g [H0912]

S-Methylisothiourea Sulfate

25g / 100g / 500g [M0442]

Melatonin

1g / 5g [M1105]

N^ω-Monomethyl-L-arginine Acetate

100mg [M1365]

6-Nitroindazole

25g / 250g [N0399]

H-Arg(NO₂)-OH

5g / 25g [N0660]

H-Arg(NO₂)-OMe-HCl

5g / 25g [N0661]

7-Nitroindazole

1g / 5g [N0827]

Ammonium

1-Pyrrolidinecarbodithioate 25g / 250g [P0644]

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oxidative stress

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