



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# PRODUCT INFORMATION



## eNOS (bovine, recombinant; *E. coli* expressed)

Item No. 11868

### Overview and Properties

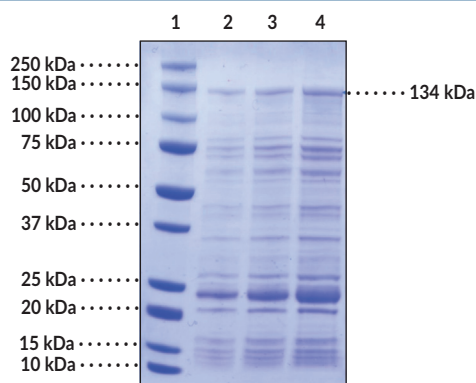
**Synonyms:** Constitutive NOS, Endothelial NOS, Endothelial Nitric Oxide Synthase, Nitric Oxide Synthase 3  
**Source:** Active recombinant bovine N-terminal His-tagged eNOS expressed in *E. coli*  
**Amino Acids:** 2-1,205 (full length)  
**Uniprot No.:** P29473  
**Molecular Weight:** 134 kDa  
**Storage:** -80°C (as supplied)  
**Stability:** ≥1 year  
**Purity:** Partially pure  
**Supplied in:** 50 mM HEPES, pH 7.8, with 0.5 mM DTT, 0.5 mM EDTA, 300 mM sodium chloride, 2 mM calcium chloride, 10 μM tetrahydro-L-biopterin (hydrochloride), and 20% glycerol

### Protein

**Concentration:** *batch specific* mg/ml  
**Activity:** *batch specific* U/ml  
**Specific Activity:** *batch specific* U/mg  
**Unit Definition:** One unit of enzyme produces 1 nmol of nitric oxide per minute at 37°C in 50 mM HEPES, pH 7.8, with 5 μM oxyhemoglobin, 1 mM calcium chloride, 20 μg/ml calmodulin, 0.1 mM NADPH, 50 μM arginine, 12 μM tetrahydrobiopterin, and 170 μM DTT.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

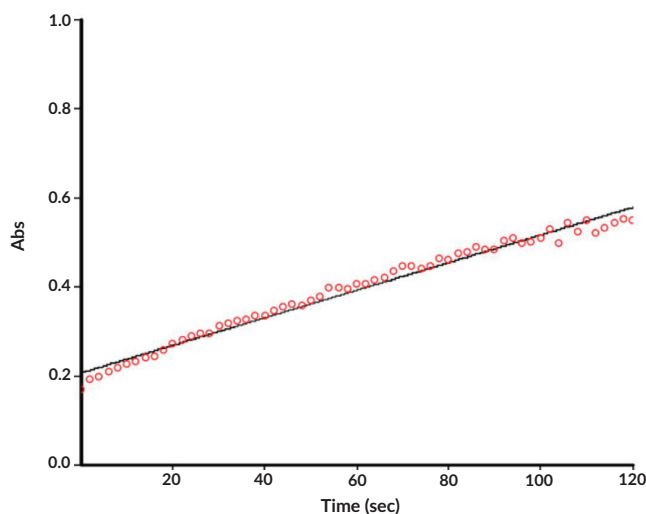
### Images



Lane 1: MW Markers  
Lane 2: eNOS (2 μg)  
Lane 3: eNOS (4 μg)  
Lane 4: eNOS (8 μg)

SDS-PAGE Analysis of eNOS.

Representative gel image shown; actual purity may vary between each batch.



eNOS (bovine, recombinant; *E. coli* expressed) Activity

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 04/08/2021

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

# PRODUCT INFORMATION



## Description

---

Endothelial nitric oxide synthase (eNOS), also known as NOS3, converts arginine to citrulline and nitric oxide (NO) to regulate endothelial homeostasis and vascular tone.<sup>1-3</sup> It is composed of an N-terminal oxygenase domain that contains binding sites for heme, its substrate L-arginine (Item No. 23703), and the cofactor tetrahydrobiopterin (BH<sub>4</sub>) and a reductase domain with binding sites for NADPH, flavin mononucleotide, flavin-adenine dinucleotide, and calmodulin.<sup>3</sup> eNOS is expressed in endothelial cells, as well as blood cells and circulating microparticles, with expression levels changing in response to growth factors, cytokines, and mechanical stimulation.<sup>1,2</sup> Localization of eNOS is mediated by protein fatty acid acylation, with myristoylated and palmitoylated eNOS targeted to plasma membrane caveolae and the Golgi complex. eNOS functions as a homodimer and is activated by the binding of calcium-bound calmodulin. eNOS uncoupling and dysfunction, primarily induced by the loss of BH<sub>4</sub> due to oxidation or decreased expression of dihydrofolate reductase (DHFR), induces the production of superoxide in place of NO and is a hallmark of most cardiovascular diseases, including atherosclerosis.<sup>4,5</sup> Cayman's eNOS (bovine, recombinant; *E. coli* expressed) can be used for enzyme assay applications.

## References

---

1. Qian, J. and Fulton, D. Post-translational regulation of endothelial nitric oxide synthase in vascular endothelium. *Front. Physiol.* **4**, 347 (2013).
2. Heiss, C., Rodriguez-Mateos, A., and Kelm, M. Central role of eNOS in the maintenance of endothelial homeostasis. *Antioxid. Redox Signal.* **22(14)**, 1230-1242 (2015).
3. Siragusa, M. and Fleming, I. The eNOS signalosome and its link to endothelial dysfunction. *Pflugers Arch.* **468(7)**, 1125-1137 (2016).
4. Daiber, A., Xia, N., Steven, S., *et al.* New therapeutic implications of endothelial nitric oxide synthase (eNOS) function/dysfunction in cardiovascular disease. *Int. J. Mol. Sci.* **20(1)**, 187 (2019).
5. Roe, N.D. and Ren, J. Nitric oxide synthase uncoupling: A therapeutic target in cardiovascular diseases. *Vascul. Pharmacol.* **57(5-6)**, 168-172 (2012).

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM