

NITRIC OXIDE

Nitric oxide (NO) activates cyclic guanosine monophosphate (cGMP), which is the second messenger, and *leads to bronchodilation*. Examples of nitric oxide donors are **nitroglycerin and nitroprusside**.

Nitric oxide (NO) is a gaseous substance produced by numerous tissues of the body. Nitric oxide synthase is an enzyme that converts the amino acid arginine to nitric oxide.

The **main** interest in NO in anesthesia is **its role as a vasodilator**. NO is *produced by endothelial cells of the vascular wall by constitutive nitric oxide synthase*.

ENDOTHELIUM

**** Bradykinin, acetylcholine, and calcium**

-stimulate

**** Nitric oxide synthase (NOS)**

-converts

**** L-Arginine to Nitric oxide**

SMOOTH MUSCLE

**** Nitric oxide**

-activates

**** Soluble guanyl cyclase (sGC)**

-triggers

**** Cyclic guanosine monophosphate (cGMP)**

-causes

**** Smooth muscle relaxation**

- Nitric oxide is derived from L-arginine amino acid.
- Nitric oxide stimulates the production of cyclic GMP (second messenger).