

## Monoclonal Antibody to NOS (pan NOS) - Ascites

**Alternate names:** NOS1, NOS2, NOS3, bNOS and eNOS, iNOS

**Catalog No.:** SM5086

**Quantity:** 0.2 ml

**Background:** Nitric Oxide (NO) is an inorganic, gaseous free radical that carries a variety of messages between cells including vasorelaxation, neurotransmission and cytotoxicity. NO is produced by a Nitric Oxide Synthase (NOS) family of enzymes which oxidizes the amino acid L-arginine to form L-citrulline and NO. Two constitutive forms, brain NOS (bNOS) & endothelial cell NOS (eNOS), and one inducible form (iNOS), have been cloned showing regions for binding of calmodulin, NADPH, FAD, and FMN. iNOS has been found in a variety of tissues including macrophages, hepatocytes, synoviocytes, and smooth muscle cells. It is induced after exposure to cytokines such as interferon- $\gamma$  (IFN), tumor necrosis factor, interleukin-1, interleukin-2, and lipopolysaccharides (LPS). After cytokine induction, iNOS has a delayed response followed by high levels of NO produced over a long period of time. eNOS and bNOS share ~50% sequence homology, and their activity depends on binding to the calcium/calmodulin complex. Both constitutive isoforms respond immediately to increased levels of calcium to produce low levels of NO over a short period of time. bNOS has been found in neurons, peripheral nerve cells, macula densa & pancreatic islet cells. eNOS is capable of synthesizing NO in vascular endothelial cells where it appears to play an important role in the control of vasotension and platelet aggregation.

**Host / Isotype:** Mouse / IgM

**Clone:** NOS-3F7-B11 B5

**Immunogen:** Purified bovine bNOS.

**Format:** **State:** Liquid diluted ascites.

**Buffer System:** PBS containing 0.05% sodium azide as preservative.

**Applications:** Immunohistochemistry on frozen sections: 1/100, staining of NOS with SM5086 yields a pattern consistent with that seen in the literature and depends on the tissue being studied and the localization of the isoforms present.

Western Blot: 1/250, detects an ~130 kDa band representing iNOS in samples first induced with interferon (IFN) and lipopolysaccharides (LPS), an ~155 kDa band in tissues expressing bNOS and an ~140 kDa band in tissues expressing eNOS.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

**Specificity:** This antibody detects brain nitric oxide synthase (bNOS), inducible NOS (iNOS) and epithelial NOS (eNOS) in bovine, mouse and rat tissues.

**Storage:**

Store the antibody at -20°C.  
Avoid repeated freezing and thawing.  
Shelf life: one year from despatch.

**General Readings:**

1. Am. J. Physiol., 267: L704-L711, 1994.
2. Am. J. Physiol., 267: L667-L678, 1994.
3. FASEB Journal, 6: 3051-3064, 1992.
4. J. Biol. Chem., Vol 278: 41798 - 41803, Oct 2003