Background: Nitric Oxide Synthase (NOS) catalyses nitric oxide (NO) and citruline from L-arginine, oxygen and cofactors. Three family members have been characterized: Neuronal NOS (nNOS) is found primarily in neuronal tissue, inducible NOS (iNOS) is induced by interferon gamma or lipopolysaccharides in kidney or cardiovascular system and endothelial NOS (eNOS) is expressed in blood vessels (1). NO is a messenger molecule with diverse functions throughout the body including vascular integrity, homeostasis, synaptic plasticity, long-term potentiation, learning and memory (2,3).

Nitric oxide catalyzed by iNOS is involved in host defense against protozoa, bacteria, fungi and viruses. Unlike constitutively expressed eNOS and nNOS, iNOS is not usually expressed in quiescent cells. iNOS is transcriptionally induced in response to bacterial endotoxins such as LPS and proinflammatory cytokines in macrophages and various other cell types. Transcription factors involved in iNOS transcription include NF-κB, AP-1 and STAT. Different signaling pathways either promote (Jak1/2, PKC, c-Raf, p38 MAP kinase and p44/42 MAP kinase) or inhibit (PI3 kinase) iNOS expression depending on stimulus and cell type (4).

Specificity/Sensitivity: iNOS Antibody (Mouse Specific) detects endogenous levels of total iNOS protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide surrounding Ala1130 of mouse iNOS. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

Recommended Antibody Dilutions:
Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.