Revision 1

Store at -20C

#9691

Nitro-Tyrosine Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	Source/Isotype:
W	All	Endogenous	Rabbit

Product Usage Information

To obtain optimal results with this antibody please use PVDF instead of nitrocellulose membranes.

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Nitro-Tyrosine Antibody detects proteins and peptides containing nitro-tyrosine in a manner independent of the surrounding amino acid sequence. It is a valuable tool for identifying new nitrated proteins as well as for assaying protein nitration and measuring levels of nitrated proteins in tissues and samples. The antibody does not cross-react with unmodified tyrosine or with phospho-tyrosine. (U.S. Patent No's.: 6,441,140; 6,982,318; 7,259,022; 7,344,714; U.S.S.N. 11,484,485; and all foreign equivalents.)

Source / Purification

Polyclonal antibodies are produced by immunizing animals with synthetic nitro-tyrosine-containing peptides . Antibodies are purified by protein A and peptide affinity chromatography.

Background

Nitric oxide (NO) is implicated in carcinogenesis (1), chronic infection, inflammation (2), and neurodegeneration (3). High levels of both superoxide and NO in tissues interact to form peroxynitrite, a potent oxidant that can modify Tyr residues in proteins to form 3-nitro-tyrosine (4). Tyrosine nitration of mitochondrial manganese superoxide dismutase results in loss of enzymatic activity (4). The nitration of p53 at Tyr residues abolishes its capacity for binding to its DNA consensus sequence (5).

Background References

1. Bentz, B.G. et al. (2000) *Head Neck* 22, 64-70.
2. Jaiswal, M. et al. (2000) *Cancer Res* 60, 184-90.
3. Olivenza, R. et al. (2000) *J Neurochem* 74, 785-91.
4. MacMillan-Crow, L.A. et al. (1996) *Proc Natl Acad Sci U S A* 93, 11853-8.
5. Chazotte-Aubert, L. et al. (2000) *Biochem Biophys Res Commun* 267, 609-13.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

All: All Species Expected

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Limited Uses

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