

# Anti-Nitrotyrosine Antibody

Mouse Monoclonal Antibody

Catalog # ABV12031

## Product Information

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| <b>Application</b> | WB, IF, E         |
| <b>Reactivity</b>  | Human, Mouse, Rat |
| <b>Host</b>        | Mouse             |
| <b>Clonality</b>   | Monoclonal        |
| <b>Isotype</b>     | Mouse IgG1        |
| <b>Clone Names</b> | 6B2               |

## Additional Information

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|-------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Antibody Form</b>                | Liquid                                                                                                        |
| <b>Appearance</b>                   | Colorless liquid                                                                                              |
| <b>Formulation</b>                  | PBS, 10 mM NaCl 0.15 M pH 7.4– Thimerosal 0.01% may be used as preservative                                   |
| <b>Handling</b>                     | The antibody solution should be gently mixed before use.                                                      |
| <b>Reconstitution &amp; Storage</b> | -20 °C                                                                                                        |
| <b>Background Descriptions</b>      |                                                                                                               |
| <b>Precautions</b>                  | Anti-Nitrotyrosine Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Background

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Oxidative stress has different functional consequences depending not only upon its intensity and duration, but also upon the nature of the free radicals, ROS or RNS, generated. Interestingly, the nature of these reactive species depends on the ratio between the initially produced ROS, superoxide anion (O<sub>2</sub><sup>-</sup>), and nitric oxide (NO). Indeed, O<sub>2</sub><sup>-</sup> very rapidly reacts with NO and therefore, as long as the NO/ O<sub>2</sub><sup>-</sup> ratio is  $\geq 1$ , O<sub>2</sub><sup>-</sup> will therefore preferentially react with NO rather than with macromolecules, thus generating reactive nitrogen species (RNS): nitrosonium (NO<sup>+</sup>), N<sub>2</sub>O<sub>3</sub> and peroxynitrite (ONOO<sup>-</sup>). These RNS induce posttranslational modifications: for NO<sup>+</sup> and N<sub>2</sub>O<sub>3</sub>, S-nitrosation (Cys-SNO) and for ONOO<sup>-</sup>, tyrosine nitration (Tyr-NO<sub>2</sub>), methionine sulfoxidation (Met-SOH) and thiol oxidation (RS-S-R). When the O<sub>2</sub><sup>-</sup>/NO ratio becomes  $> 1$ , the O<sub>2</sub><sup>-</sup> and NO<sub>2</sub> ions and thereafter the OH<sup>•</sup> radicals, cause irreversible oxidations and peroxidations of macromolecules which generally lead to cell death(1-4). The monoclonal antibodies have been selected for their high affinity and specificity towards Tyr-NO<sub>2</sub> residues. They do not cross-react with Tyr or Tyr derivatives such as aminotyrosine, chlorotyrosine or phosphotyrosine, neither with nitroTrp which can also be generated in response to peroxynitrite. They also recognize Tyr-NO<sub>2</sub> residues in various sequences as shown by their ability to recognize nitrated proteins including albumin, ovalbumin, insulin, hemoglobin, KLH and various cytoplasmic and mitochondrial proteins.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.