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## Product Information

### Monoclonal Anti-Tyrosinase

#### Clone T311

produced in mouse, purified immunoglobulin

Catalog Number **T9951**

#### Product Description

Monoclonal Anti-Tyrosinase (mouse IgG2a isotype) is derived from the hybridoma T311 produced by the fusion of mouse myeloma cells (SP2/0 cells) and splenocytes from BALB/c mice immunized with a human recombinant tyrosinase protein (Gene ID: 7299).<sup>1</sup> The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-Tyrosinase recognizes human<sup>1, 2, 4</sup> tyrosinase. The antibody may be used in ELISA,<sup>1</sup> immunoblotting (~70 kDa),<sup>1, 3</sup> immunocytochemistry,<sup>3</sup> and immunohistochemistry.<sup>1, 2, 4</sup>

Tyrosinase is a copper-containing enzyme that catalyzes several steps in the synthesis of melanin together with other enzymes like tyrosinase-related protein 1 (Tyrop1 or TRP1) and tyrosine-related protein 2 (Tyrop2, DCT or TRP2). Melanin is produced in many species and is synthesized in two forms of pigmentation: eumelanin (black-brownish) and pheomelanin (red-yellowish). The different combination and intensity of these melanins determine the coloration of skin, eye and hair in mammalian.<sup>1-5</sup> Tyrosinase uses a binuclear copper center to catalyze the hydroxylation of tyrosine to dihydroxyphenylalanine (DOPA), a rate-limiting step in melanin production. It also catalyzes the oxidation of DOPA to DOPAquinone and further downstream produces 5,6-dihydroxyindole (DHI) and 5,6-dihydroxyindole-2-carboxylic acid (DHICA), eumelanin precursors. Tyrosinase is expressed in epidermal melanocytes and in pigment epithelia of the retina, iris, and ciliary body of the eye. Abnormalities with melanin production are associated with a variety of human disease states including albinism, Hermansky-Pudlak syndrome (HPS), and melanoma.<sup>1-5</sup> Tyrosinase is considered to be a marker for advanced stage melanoma. Positive tyrosinase in peripheral venous blood was found to be a negative predictor of survival.<sup>6</sup>

#### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~2 mg/mL

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

#### Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using total cell extract of SKMEL19.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

#### References

1. Chen, Y-T., et al., *Proc. Natl. Acad. Sci. USA*, **92**, 8125-8129 (1995).
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4. Clarkson, K.S., et al., *J. Clin. Pathol.*, **54**, 196-200 (2001).
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6. Glumac, N., et al., *Neoplasia*, **53**, 9-14 (2006).

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