

Product datasheet for **AM32831PU-T**

Tyrosinase (TYR) Mouse Monoclonal Antibody [Clone ID: T311]

Product data:

Product Type:	Primary Antibodies
Clone Name:	T311
Applications:	FC, IF, IHC, IP, WB
Recommended Dilution:	ELISA: Use Antibody without BSA for Coating. Western blot: 0.5-1 µg/ml. Immunoprecipitation: 1-2 µg/500 µg protein lysate. Immunofluorescence: 1-2 µg/ml. Flow Cytometry: 0.5-1 µg/10 ⁶ cells. Immunohistochemistry on Frozen Sections. Immunohistochemistry on Paraffin Sections: Use Tyrosinase T311 Antibody at 0.5-1 µg/ml for 30 minutes at RT. Staining of formalin-fixed tissues requires boiling tissue sections in 1mM EDTA, pH 7.5-8.5, for 10-20 min followed by cooling at RT for 20 minutes. Positive Control: SK-MEL-13, SK-MEL-19, SK-MEL-30, SK-MEL-37 cells or Melanoma.
Reactivity:	Human
Host:	Mouse
Isotype:	IgG2a
Clonality:	Monoclonal
Immunogen:	Recombinant Tyrosinase protein
Specificity:	Tyrosinase has been shown to be a very specific marker for melanomas, not cross reacting with any other tumors or normal tissues tested. This Monoclonal antibody is specific to a cluster of proteins between 70-80 kD known as Tyrosinase. The antibody does not show any cross-reaction with MAGE-1 and tyrosinase-related protein-1, TRP-1/gp75. Staining of melanomas with this antibody showed Tyrosinase in melanotic as well as amelanotic variants. This Monoclonal antibody is a useful marker for melanocytes and melanomas. Cellular Localization: Cytoplasmic.



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Formulation: 10mM PBS
State: Purified
State: Liquid purified IgG fraction purified from Bioreactor Concentrate
Stabilizer: 0.05% BSA
Preservative: 0.05% Sodium Azide

Concentration: lot specific

Purification: Protein A/G Chromatography

Conjugation: Unconjugated

Storage: Store undiluted at 2-8°C.

Stability: Shelf life: one year from despatch.

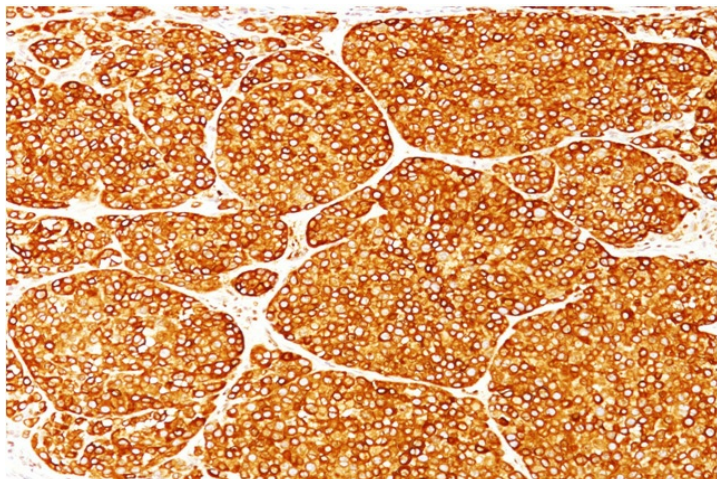
Predicted Protein Size: 70-80 kDa

Gene Name: tyrosinase

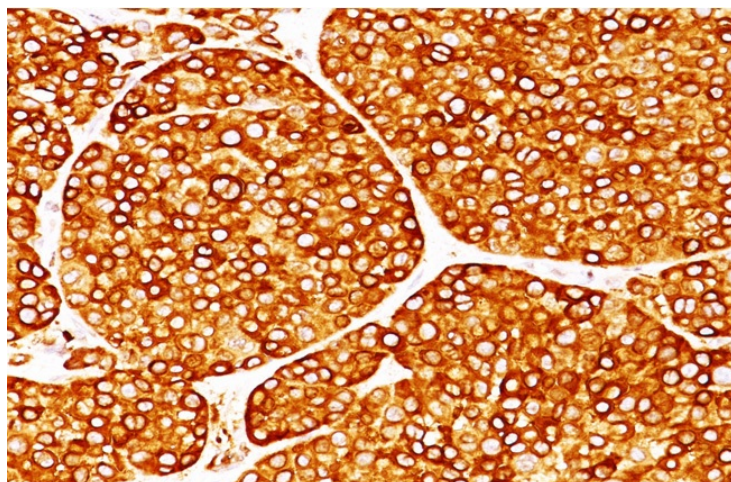
Database Link: [Entrez Gene 7299 Human P14679](#)

Background: Tyrosinase (Tyr) is a trans-membrane glycoprotein that belongs to the type 3 copper protein family (Yin, 2011). It plays a key role in the melanosynthetic pathway and is required for the synthesis of both types of melanin, eumelanin and pheomelanin (Hu, 2011). Tyrosinase is the rate limiting enzyme catalyzing the first two steps in the melanin biosynthesis, converting tyrosine to L-dihydroxy-phenylalanine (DOPA) and subsequently to DOPAquinone (K, 2013). The pigmentation of skin, the browning of vegetables, wound healing and cuticle formation in insects are some of the major responsibilities performed by tyrosinase (Yin, 2011). This melanocyte-specific enzyme is localized to the post-Golgi compartment termed the melanosome (Francis, 2003). Tyrosinase consists of 533 amino acids along with 7 occupied N-glycosylation sites, 17 cysteine residues grouped in 2 cysteine-rich domains, 2 copper binding domains, and 1 C-terminal TMD (Popescu, 2006). It folds in the ER and is transported to the trans-Golgi network where two copper ions are incorporated and performs different catalytic reactions such as the hydroxylation of monophenols to o-diphenols (cresolase activity) and the oxidation of o-diphenols to o-quinones (catechol oxidase activity) (Yin, 2011). From here it continues its journey to the melanosomes where it initiates the melanin synthesis. This protein is related with severe skin diseases such as type 1 albinism and melanoma and an important target for anti-melanoma vaccine therapies (Popescu, 2006 and Han, 2007). Anti-tyrosinase antibodies may be applied for immunotherapy in patients with malignant melanoma (Merimsky, 1998).

Synonyms: LB24-AB; OCA1A; OCAIA; SHEP3; SK29-AB; tyrosinase

Product images:

Formalin-Fixed, Paraffin-Embedded Human melanoma (10X) stained with Tyrosinase Antibody (Clone T311) using peroxidase-conjugate and DAB chromogen. Note cytoplasmic staining.



Formalin-Fixed, Paraffin-Embedded Human melanoma (20X) stained with Tyrosinase Antibody (Clone T311) using peroxidase-conjugate and DAB chromogen. Note cytoplasmic staining.