

Mouse/Human TYRP1/TRP1 Antibody

Purified No Carrier Protein

Hybridoma Monoclonal Antibody

Product Information

Product No.: T747

Clone: TA99

Isotype: Mouse IgG2a k

Storage: Sterile 2° to 8°C

Product Description

Specificity:

TA99 activity is directed against tyrosinase-related protein 1 (TYRP1/TRP1), a 75kDa differentiation-related human glycoprotein (gp75), formerly referred to as pigmentation-associated antigen (PAA).

Antigen Distribution:

TYRP1/TRP1 (gp75) is expressed by pigmented melanoma cells and cultured melanocytes. It predominantly localizes with melanosomes but can also be expressed on the cell surface. It is strongly expressed in B16F10 melanoma cells in vivo.

Background:

The pigment melanin is produced by specialized organelles called melanosomes that are present in melanocytes¹. Melanosomes mature through four morphologically distinct stages, and it is in Stage II that melanin synthesis and deposition is initiated by enzymes including TYRP1². TYRP1/TRP1 (gp75) is a 75 kDa melanosomal membrane protein^{3,4} involved in melanin synthesis that is also the most abundant glycoprotein synthesized by pigmented melanocytes and melanomas⁵. In mice, TYRP1/TRP1 (gp75) is also known as the b (brown) locus and determines coat color⁶. Gene identity is 88% conserved between mouse and human. TYRP1/TRP1 (gp75) is glycosylated by addition and processing of five or more Asn-linked carbohydrate chains.

TA99 was generated by immunizing mice with whole cells of a darkly pigmented melanoma (SK-MEL-23) and fusing spleen cells with NS-1 cells for hybridoma production⁴. TA99 is reactive against mature melanosomes¹. In normal tissues, TA99 reacts with melanin-containing cells in the basal layer of the epidermis as well as pigmented cells of the eye⁴. TA99 is widely used as a melanosomal marker.

The benefits of TA99 in cancer therapy are being investigated. In mouse, TA99 prevents outgrowth of B16F10 melanoma metastases^{5,7}. In humans, TA99 is used for melanoma diagnosis⁵. Additionally, TA99 can target subcutaneous human melanoma xenografts in vivo⁵ and can induce neutrophil recruitment in tumor sites in a B16 melanoma mouse model⁸. TA99 also improves DNA vaccination against melanoma antigen gp100⁹. FcγR signaling is required for TA99 action^{5,9,10,11}. TA99 has no impact on tumor outgrowth in established solid tumors¹².

Format:

Purified No Carrier Protein

Immunogen:

SK-MEL-23 Melanoma cell line

Formulation

This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added.

Purity

≥90% monomer by analytical SEC

Storage and Stability

This antibody may be stored sterile as received at 2° to 8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at -80°C.

Avoid Repeated Freeze Thaw Cycles.

Product Preparation

Purified antibodies are manufactured in an animal free facility using only in vitro protein free cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Other Applications Reported in Literature:

ELISA,
FA,
ICC,
IF microscopy,
IHC,
in vivo,
IP,
RIA

Country of Origin

USA

References

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