Tyrosinase (T311): sc-20035

**BACKGROUND**

Tyrosinase (TYR), a type I membrane protein and copper-containing enzyme, is involved in the production of melanin, the primary pigment found in vertebrates. Melanin biogenesis requires the enzymatic activity of TYR, which catalyzes the critical and rate-limiting step of tyrosine hydroxylation in the biosynthesis of melanin. Defects effecting TYR activity result in various forms of albinism. The TYR-related proteins, TRP1 and TRP2, are also specifically expressed in melanocytes, and they likewise contribute to the synthesis of melanin within the melanosomes. The TRPs, including TYR, all share a similar transmembrane region, contain two metal-binding regions and a cysteine-rich epidermal growth factor motif, and are localized in the melanosomal membrane. These proteins, however, have distinct catalytic activity, and they individually contribute to the biosynthesis of melanin biopolymers. The TRPs are believed to exist as a multi-enzyme complex, as these proteins form aggregates together, and the expression of TRP1 also helps stabilize TYR in melanocytes.

**CHROMOSOMAL LOCATION**

Genetic locus: TYR (human) mapping to 11q14.3, Tyr (mouse) mapping to 7 D3.

**SOURCE**

Tyrosinase (T311) is a mouse monoclonal antibody raised against recombinant Tyrosinase of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Tyrosinase (T311) is available conjugated to agarose (sc-20035 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-20035 HRP), 200 µg/ml, for WB, (HOP) and ELISA; to either phycocyanin (sc-20035 PE), fluorescein (sc-20035 FITC), Alexa Fluor® 488 (sc-20035 AF488), Alexa Fluor® 546 (sc-20035 AF546), Alexa Fluor® 594 (sc-20035 AF594) or Alexa Fluor® 647 (sc-20035 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-20035 AF680) or Alexa Fluor® 790 (sc-20035 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**APPLICATIONS**

Tyrosinase (T311) is recommended for detection of Tyrosinase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).


Molecular Weight of Tyrosinase: 60 kDa.

Molecular Weight of glycosylated Tyrosinase: 70-84 kDa.

**DATA**

Tyrosinase (T311): sc-20035. Western blot analysis of Tyrosinase expression in Hep G2 (A), Jurkat (B), A-431 (C) and A375 (D) whole cell lysates.

Tyrosinase (T311): sc-20035. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of subset of basal epithelial cells (A), Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of melanocytes (B).

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

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**STORAGE**

Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.