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ProductInformation

Anti-Tal (FQ-17)
Developed in Rabbit
Affinity Isolated Antibody

Product Number **T 1200**

Product Description

Anti-Tal (FQ-17) is developed in rabbit using as immunogen a synthetic peptide encoding amino acids 5-21 located near the N-terminus of human Tal, conjugated to KLH. This sequence is identical in mouse and rat Tal. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Tal (FQ-17) recognizes human, mouse, and rat Tal. Applications include immunoblotting (84 kDa), indirect immunofluorescence, and immunoprecipitation. In immunoblotting, additional lower bands may be observed in some cell extracts. Staining of the Tal band in immunoblotting is specifically inhibited with the Tal immunizing peptide (human, amino acids 5-21).

Tal (Tsg101-associated ligase, 84 kDa) is a novel RING finger protein identified in a two hybrid screen for proteins interacting with Tsg101.[1] Conjugation of monomeric ubiquitins to receptors and adaptor proteins plays an essential role in sorting cargo to vesicular trafficking pathways, both to the endocytic and exocytic pathways.[2] Genetic defects that disrupt ubiquitin-controlled sorting are often linked to aberrations in cell growth and may result in oncogenic transformations. Examples include c-Cbl, an E3 ubiquitin-ligase involved in late sorting events of growth factor receptors to endocytosis, Nedd4 family of E3-ubiquitin ligases that regulate initial sorting event,[3, 4] and Tsg101, an E2-like molecule originally isolated in a random screen for tumor suppressor genes.[5] Tsg101 yeast homolog Vps23p, has been implicated in the endosomal sorting of mono-ubiquitylated target membrane-associated proteins to the multi-vesicular body (MVB).[6] Reduced expression of Tsg101 shunts active EGFRs from the normal degradative pathway to a recycling route.[7] Tsg101 has been implicated in the budding process of certain enveloped viruses like HIV-1.[8] Tal, which interacts with Tsg101, contains an N-terminal leucine-rich repeat (LRR), followed by and ezrin-radixin-moesin (ERM) domain, a coiled-coil (CC) region, a SAM domain and a C-terminal C3HC4-type RING finger domain.[1] Tal associates with, and ubiquitylates Tsg101 in a manner that regulates receptor trafficking and budding of viral particles. Tal binds to Tsg101 in a bimodal mode, through an interaction of its CC domain with the steadiness box (SB) of Tsg101, and also via binding of the UEV domain of Tsg101 with two PTAP motifs just upstream of the C-terminal RING domain. Tal interaction with Tsg101 promotes multiple mono-ubiquitination of Tsg101, rather than poly-ubiquitination, which leads to the release of Tsg101 from membrane complexes and its inactivation. Inactivation of Tsg101, prevents its access to PTAP-containing targets, including EGFR and HIV Gag, hence influencing receptor trafficking and budding of viral particles.

Reagent

Anti-Tal (FQ-17) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: Approx. 3 mg/ml

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS 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 is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile
By immunoblotting, a working antibody concentration of 2-4 µg/ml is recommended using a whole extract of human kidney 293 cells expressing human Tal.

By indirect immunofluorescence, a working antibody concentration of 10-20 µg/ml is recommended for staining of the mouse fibroblast NIH3T3 cell line.

By immunoprecipitation, 20-40 µg of the antibody can immunoprecipitate Tal protein from mouse brain S1 cytosolic fraction.

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

References

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