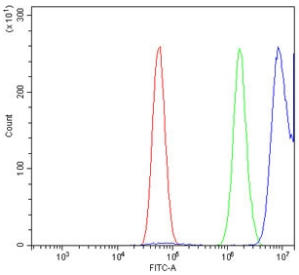
SGT1 Antibody / ECD (RQ6474)

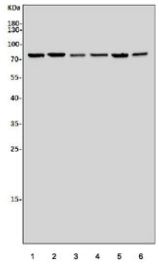
Catalog No.	Formulation	Size
RQ6474	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	O95905
Localization	Cytoplasmic, nuclear
Applications	Western blot: 1-2ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This SGT1 antibody is available for research use only.



Flow cytometry testing of fixed and permeabilized human U-87 MG cells with SGT1 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= SGT1 antibody.



Western blot testing of 1) mouse ANA-1, 2) human HL60, 3) human U-2 OS, 4) human U-87 MG, 5) human K562 and 6) human HepG2 cell lysate with SGT1 antibody. Predicted molecular weight ~73 kDa.

Description

SGT1 antibody detects Suppressor of GCR two, also called Protein ecdysoneless homolog (ECD), a conserved regulatory protein involved in cell cycle control, protein stability, and stress response pathways. The UniProt recommended name is Protein ECD. SGT1 participates in multiple essential cellular processes through its interactions with chaperone systems, ubiquitin dependent machinery, and checkpoint regulators. It functions as a molecular adaptor that coordinates protein assembly, turnover, and quality control, contributing to proper cell proliferation and maintenance of cellular homeostasis.

SGT1 is a cytoplasmic and nuclear protein of approximately 312 amino acids containing domains that interact with HSP90 chaperones, Skp1 components, and regulatory proteins involved in growth control. These interactions position SGT1 as a critical facilitator of protein folding, stabilization, and complex assembly. By supporting chaperone mediated maturation of signaling proteins, SGT1 influences pathways that regulate cell division, stress adaptation, and checkpoint activity. SGT1 has also been implicated in ubiquitin dependent processes through its ability to modulate protein complex formation and protect client proteins from premature degradation.

The ECD gene is located on chromosome 5p15.2 and is expressed in a broad range of tissues including brain, liver, immune cells, endocrine tissues, and proliferative epithelia. SGT1 expression is regulated by developmental cues and stress signals that influence growth, differentiation, and survival. In dividing cells, SGT1 contributes to proper progression through the cell cycle, particularly at transitions involving spindle checkpoint signaling and mitotic control. Through its roles in regulating protein stability and assembly, SGT1 ensures that key regulators of mitosis are available and properly configured for accurate chromosome segregation.

In addition to its functions in cell cycle regulation, SGT1 participates in stress response pathways. It assists in stabilizing proteins involved in oxidative stress responses, heat shock adaptation, and proteotoxic stress. SGT1's cooperation with HSP90 allows it to support conformational maturation of client proteins that play roles in survival and metabolic adaptation. This chaperone associated activity helps maintain cellular integrity under conditions that challenge protein folding or generate misfolded protein stress.

SGT1 is also relevant to innate immune signaling. Studies have shown that SGT1 contributes to proper assembly and stability of immune signaling complexes involved in inflammatory responses. Through its interactions with cytosolic scaffolding proteins and kinases, SGT1 helps modulate signal propagation in pathways that govern cytokine production and immune activation. These regulatory functions position SGT1 as an important mediator of cellular resilience and adaptive response.

Pathologically, dysregulated SGT1 expression or function has been associated with defects in cell division, altered stress tolerance, and abnormal protein turnover. Reduced SGT1 activity may impair chaperone dependent stabilization of essential regulatory proteins, leading to cell cycle defects or increased susceptibility to stress induced damage. Conversely, aberrant SGT1 upregulation has been observed in certain tumors, where altered protein stability pathways can support malignant cell proliferation or survival. Its involvement in multiple essential regulatory systems continues to make SGT1 a focus of research across oncology, stress biology, and protein homeostasis.

SGT1 also plays roles in developmental systems. During embryonic growth, proper regulation of cell cycle transitions and

protein folding networks is essential for controlled tissue expansion and differentiation. SGT1's dual functions in chaperone coordination and checkpoint regulation support these developmental processes by helping shape protein levels and signaling output within proliferating cell populations.

SGT1 antibody is validated for use in relevant research applications to detect ECD protein expression and investigate its roles in cell cycle regulation, protein stability, and stress response pathways. NSJ Bioreagents provides SGT1 antibody reagents suitable for studies in cell biology, oncology, developmental research, and protein homeostasis.

Application Notes

Optimal dilution of the SGT1 antibody should be determined by the researcher.

Immunogen

An E. coli-derived human protein (amino acids L50-N632) was used as the immunogen for the SGT1 antibody.

Storage

After reconstitution, the SGT1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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