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Anti-KLHL12 Antibody Picoband™ (monoclonal, 2G11D1)

Catalog # ABO16625

Product Information

Application	WB, IHC
Primary Accession	Q53G59
Host	Mouse
Isotype	IgG2a
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-KLHL12 Antibody Picoband™ (monoclonal, 2G11D1) . Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	59349
Other Names	Kelch-like protein 12, CUL3-interacting protein 1 {ECO:0000303|Ref.1}, DKIR homolog, hDKIR, KLHL12, C3IP1 {ECO:0000303|Ref.1}
Calculated MW	63277
Application Details	Western blot, 0.25-0.5 □g/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 □g/ml, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 2G11D1
Immunogen	E.coli-derived human KLHL12 recombinant protein (Position: R27-I331).
Purification	Immunogen affinity purified.
Storage	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

Protein Information

Name	KLHL12
Synonyms	C3IP1 {ECO:0000303|Ref.1}

Function	Substrate-specific adapter of a BCR (BTB-CUL3-RBX1) E3 ubiquitin ligase complex that acts as a negative regulator of Wnt signaling pathway and ER-Golgi transport (PubMed:22358839, PubMed:27565346). The BCR(KLHL12) complex is involved in ER-Golgi transport by regulating the size of COPII coats, thereby playing a key role in collagen export, which is required for embryonic stem (ES) cells division: BCR(KLHL12) acts by mediating monoubiquitination of SEC31 (SEC31A or SEC31B) (PubMed:22358839, PubMed:27565346). The BCR(KLHL12) complex is also involved in neural crest specification: in response to cytosolic calcium increase, interacts with the heterodimer formed with PEF1 and PDCD6/ALG-2, leading to bridge together the BCR(KLHL12) complex and SEC31 (SEC31A or SEC31B), promoting monoubiquitination of SEC31 and subsequent collagen export (PubMed:27716508). As part of the BCR(KLHL12) complex, also acts as a negative regulator of the Wnt signaling pathway by mediating ubiquitination and subsequent proteolysis of DVL3 (PubMed:16547521). The BCR(KLHL12) complex also mediates polyubiquitination of DRD4 and PEF1, without leading to degradation of these proteins (PubMed:18303015, PubMed:20100572, PubMed:27716508).
Cellular Location	Cytoplasmic vesicle, COPII-coated vesicle
Tissue Location	Ubiquitously expressed. Highly expressed in testis and at lower levels in the submandibular salivary gland

Background

Kelch-like protein 12 is a protein that in humans is encoded by the KLHL12 gene. This gene encodes a member of the KLHL (Kelch-like) family of proteins. This protein has been identified as an autoantigen in the autoimmune disease Sjogren's syndrome and as a potential biomarker in primary biliary cirrhosis. This protein may act as a substrate adaptor of the Cullin-3 ubiquitin ligase complex to promote substrate-specific ubiquitylation. Ubiquitylation by this complex has been shown to regulate the Wnt signaling pathway as well as COPII vesicle coat size. A pseudogene has been identified on chromosome 22. Alternative splicing results in multiple transcript variants.

Images

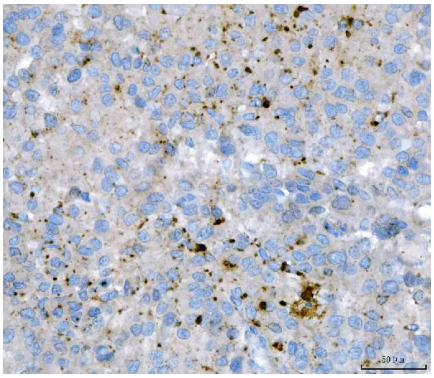
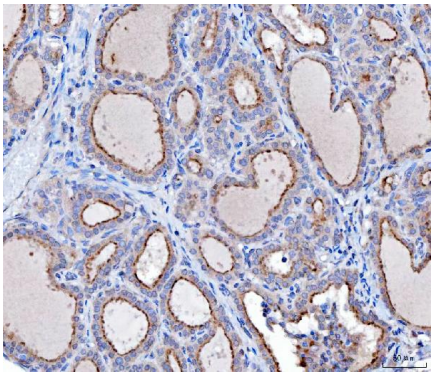


Figure 2. IHC analysis of KLHL12 using anti-KLHL12 antibody (M08568-1).
KLHL12 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-KLHL12 Antibody (M08568-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

Figure 3. IHC analysis of KLHL12 using anti-KLHL12 antibody (M08568-1).
KLHL12 was detected in a paraffin-embedded section of human thyroid cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-KLHL12 Antibody (M08568-1)



overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

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