10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

BIRC5 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1653a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	O15392
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1H5
Isotype	IgG1
Calculated MW	16389
Description	This gene is a member of the inhibitor of apoptosis (IAP) gene family, which encode negative regulatory proteins that prevent apoptotic cell death. IAP family members usually contain multiple baculovirus IAP repeat (BIR) domains, but this gene encodes proteins with only a single BIR domain. The encoded proteins also lack a C-terminus RING finger domain. Gene expression is high during fetal development and in most tumors, yet low in adult tissues. Alternatively spliced transcript variants encoding distinct isoforms have been found for this gene.
Immunogen	Purified recombinant fragment of human BIRC5 expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	332
Other Names	Baculoviral IAP repeat-containing protein 5, Apoptosis inhibitor 4, Apoptosis inhibitor survivin, BIRC5, API4, IAP4
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	BIRC5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BIRC5
Synonyms	API4, IAP4
Function	Multitasking protein that has dual roles in promoting cell proliferation and preventing apoptosis (PubMed:20627126, PubMed:21364656, PubMed:25778398, PubMed:28218735, PubMed:9859993). Component of a chromosome passage protein complex (CPC) which is essential for chromosome alignment and segregation during mitosis and cytokinesis (PubMed:16322459). Acts as an important regulator of the localization of this complex; directs CPC movement to different locations from the inner centromere during prometaphase to midbody during cytokinesis and participates in the organization of the center spindle by associating with polymerized microtubules (PubMed:20826784). Involved in the recruitment of CPC to centromeres during early mitosis via association with histone H3 phosphorylated at 'Thr-3' (H3pT3) during mitosis (PubMed:20929775). The complex with RAN plays a role in mitotic spindle formation by serving as a physical scaffold to help deliver the RAN effector molecule TPX2 to microtubules (PubMed:18591255). May counteract a default induction of apoptosis in G2/M phase (PubMed:9859993). The acetylated form represses STAT3 transactivation of target gene promoters (PubMed:20826784). May play a role in neoplasia (PubMed:10626797). Inhibitor of CASP3 and CASP7 (PubMed:21536684). Essential for the maintenance of mitochondrial integrity and function (PubMed:25778398). Isoform 2 and isoform 3 do not appear to play vital roles in mitosis (PubMed:12773388, PubMed:16291752). Isoform 3 shows a marked reduction in its anti- apoptotic effects when compared with the displayed wild-type isoform (PubMed:10626797).
Cellular Location	Cytoplasm. Nucleus. Chromosome Chromosome, centromere. Cytoplasm, cytoskeleton, spindle. Chromosome, centromere, kinetochore. Midbody. Note=Localizes at the centromeres from prophase to metaphase, at the spindle midzone during anaphase and a the midbody during telophase and cytokinesis. Accumulates in the nucleus upon treatment with leptomycin B (LMB), a XPO1/CRM1 nuclear export inhibitor (By similarity). Localizes on chromosome arms and inner centromeres from prophase through metaphase. Localizes to kinetochores in metaphase, distributes to the midzone microtubules in anaphase and at telophase, localizes exclusively to the midbody (PubMed:11084331) Colocalizes with AURKB at mitotic chromosomes (PubMed:14610074) Acetylation at Lys-129 directs its localization to the nucleus by enhancing homodimerization and thereby inhibiting XPO1/CRM1-mediated nuclear export (PubMed:20826784). {ECO:0000250|UniProtKB:E3SCZ8, ECO:0000269|PubMed:11084331, ECO:0000269|PubMed:14610074, ECO:0000269|PubMed:20826784}
Tissue Location	Expressed only in fetal kidney and liver, and to lesser extent, lung and brain (PubMed:10626797). Abundantly expressed in adenocarcinoma (lung, pancreas, colon, breast, and prostate) and in high-grade lymphomas (PubMed:14741722, PubMed:16329164). Also expressed in various renal cell carcinoma cell lines (PubMed:10626797). Expressed in cochlea including the organ of Corti, the lateral wall, the interdental cells of the Limbus as well as in Schwann cells and cells of the cochlear nerve and the spiral ganglions (at protein level). Not expressed in cells of the inner and outer sulcus or the Reissner's membrane (at protein level) (PubMed:20627126, PubMed:21364656)

References

1. BMC Cancer. 2010 Feb 24;10:65. 2. Int J Cancer. 2009 Oct 15;125(8):1921-5.

Images

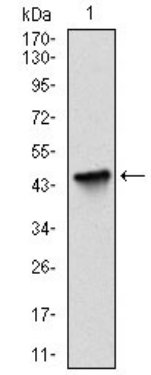


Figure 1: Western blot analysis using BIRC5 mAb against human BIRC5 (AA: 1-142) recombinant protein. (Expected MW is 42 kDa)

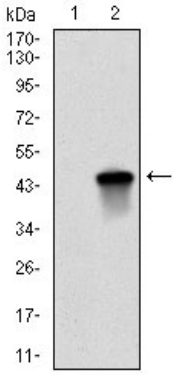


Figure 2: Western blot analysis using BIRC5 mAb against HEK293 (1) and BIRC5 (AA: 1-142)-hIgGFc transfected HEK293 (2) cell lysate.

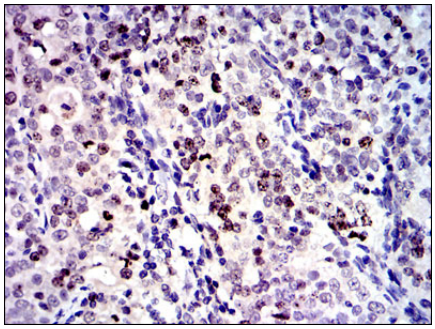


Figure 3: Immunohistochemical analysis of paraffin-embedded cervical cancer tissues using BIRC5 mouse mAb with DAB staining.

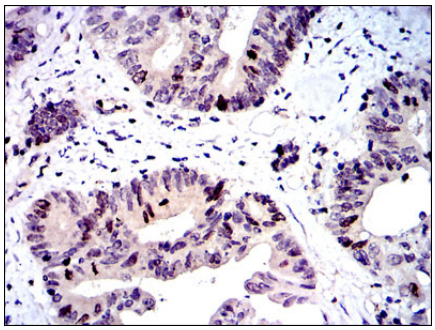


Figure 4: Immunohistochemical analysis of paraffin-embedded colon cancer tissues using BIRC5 mouse mAb with DAB staining.

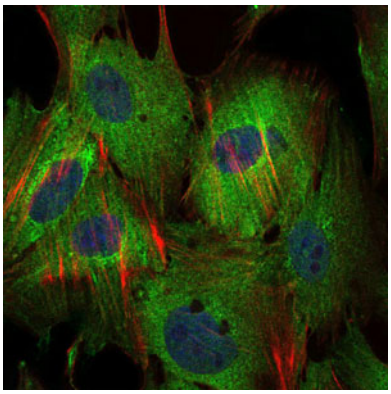
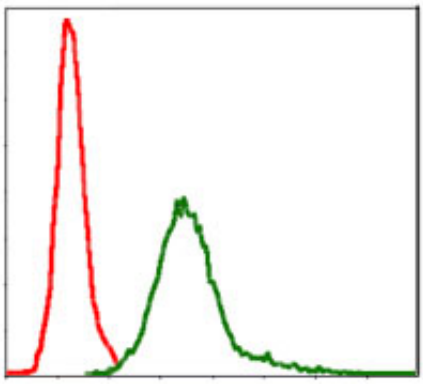


Figure 5: Immunofluorescence analysis of MSCS cells using BIRC5 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

Figure 6: Flow cytometric analysis of Jurkat cells using BIRC5 mouse mAb (green) and negative control (red).



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.