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# BRUCE Antibody

Catalog # ASC10242

## Product Information

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| **Application** | E, IHC-P |
| **Primary Accession** | Q9NR09 |
| **Other Accession** | NP_057336, 153792694 |
| **Reactivity** | Human |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Calculated MW** | 530269 |
| **Concentration (mg/ml)** | 1 mg/mL |
| **Conjugate** | Unconjugated |
| **Application Notes** | BRUCE antibody can be used for detection of BRUCE by immunohistochemistry at 5 □g/mL. |

## Additional Information

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| **Gene ID** | 57448 |
| **Other Names** | BRUCE Antibody: BRUCE, APOLLON, KIAA1289, Baculoviral IAP repeat-containing protein 6, BIR repeat-containing ubiquitin-conjugating enzyme, BRUCE, baculoviral IAP repeat-containing protein 6 |
| **Target/Specificity** | BIRC6; BRUCE antibody is human specific. Multiple isoforms of BRUCE are known to exist. |
| **Reconstitution & Storage** | BRUCE antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures. |
| **Precautions** | BRUCE Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | BIRC6 |
| **Synonyms** | KIAA1289 |
| **Function** | Anti-apoptotic protein known as inhibitor of apoptosis (IAP) which can regulate cell death by controlling caspases and by acting as an E3 ubiquitin-protein ligase (PubMed:14765125, PubMed:15200957, PubMed:18329369). Unlike most IAPs, does not contain a RING domain and it is not a RING-type E3 ligase (PubMed:15200957, PubMed:36758104, PubMed:36758105, PubMed:36758106). Instead acts as a dual E2/E3 enzyme |

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| | that combines ubiquitin conjugating (E2) and ubiquitin ligase (E3) activities in a single polypeptide (PubMed:15200957, PubMed:36758104, PubMed:36758105, PubMed:36758106). Ubiquitination is mediated by a non-canonical E1 ubiquitin activating enzyme UBA6 (PubMed:36758104, PubMed:36758105, PubMed:36758106). Ubiquitinates CASP3, CASP7 and CASP9 and inhibits their caspase activity; also ubiquitinates their procaspases but to a weaker extent (PubMed:15200957, PubMed:36758104, PubMed:36758105, PubMed:36758106). Ubiquitinates pro-apoptotic factors DIABLO/SMAC and HTRA2 (PubMed:15200957, PubMed:36758104, PubMed:36758105, PubMed:36758106). DIABLO/SMAC antagonizes the caspase inhibition activity of BIRC6 by competing for the same binding sites as the caspases (PubMed:18329369, PubMed:36758106). Ubiquitinates the autophagy protein MAP1LC3B; this activity is also inhibited by DIABLO/SMAC (PubMed:36758105). Important regulator for the final stages of cytokinesis (PubMed:18329369). Crucial for normal vesicle targeting to the site of abscission, but also for the integrity of the midbody and the midbody ring, and its striking ubiquitin modification (PubMed:18329369). |
| **Cellular Location** | Golgi apparatus, trans-Golgi network membrane. Endosome Cytoplasm, cytoskeleton, spindle pole Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Midbody, Midbody ring. Note=Exhibits cell cycle-dependent localization. Concentrates in a pericentriolar compartment in interphase, moves partially to spindle poles in metaphase, and finally localizes to the spindle midzone and the midbody in telophase and during cytokinesis. On the midbody, localizes to the midbody ring, also called Flemming body (PubMed:18329369). In interphase cells, localizes to the trans-Golgi network membrane and endosomes. During cytokinesis, a fraction moves to the midzone where it specifically arrives at the midbody ring. After abscission completion, travels with the midbody remnant into one daughter cell, and remains bound to it until a new midbody ring is formed during the next cell division (PubMed:18329369) |
| **Tissue Location** | Expressed in brain cancer cells. |

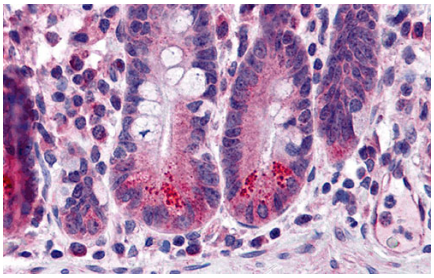
## Background

BRUCE Antibody: Apoptosis, or programmed cell death, is related to many diseases, such as cancer. Apoptosis is triggered by a variety of stimuli including members in the TNF family and can be prevented by the inhibitor of apoptosis (IAP) proteins. IAP proteins form a conserved gene family that binds to and inhibits cell death proteases. BRUCE, also known as BIRC6, is an IAP family member protein with a BIR (baculoviral inhibition of apoptosis protein repeat) domain and a UBCc (ubiquitin-conjugating enzyme E2, catalytic) domain. BRUCE regulates p53 and the mitochondrial pathway of apoptosis by facilitating the degradation of apoptotic proteins such as Caspase-9 and SMAC by ubiquitination.

## References

Schimmer AD. Inhibitor of apoptosis proteins: translating basic knowledge into clinical practice. Cancer Res. 2004; 64:7183-90.
Chen Z, Naito M, Hori S, et al. A human IAP-gamily gene, apollon, expressed in human brain cancer cells. Biochem. Biophys. Res. Commun. 1999; 264:847-54
Hao Y, Sekine K, Kawabata A, et al. Apollon ubiquitinates SMAC and Caspase-9, and has an essential cytoprotection function. Nat. Cell Biol. 2004; 6:849-60.

## Images



Immunohistochemistry of BRUCE in human small intestine tissue with BRUCE antibody at 5 µg/mL.

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