

Rabbit CtIP Polyclonal Antibody | anti-CtIP antibody

Phospho-CtIP (Ser327) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA329615	Rabbit	Human, Mouse, Rat Predicted Reactivity: Pig (83%), Bovine (92%), Horse (100%), Sheep (92%), Rabbit (100%), Dog (83%)	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

CtIP; Polyclonal Antibody; Phospho-CtIP (Ser327) Antibody; COM1; COM1_HUMAN; CtBP interacting protein; CtBP-interacting protein; DNA endonuclease RBBP8; JWDS; RBBP-8; RBBP8; Retinoblastoma-binding protein 8; Retinoblastoma-interacting protein and myosin-like; Rim; SAE2; SCKL2; Sporulation in the absence of SPO11 protein 2 homolog; anti-CtIP antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat Predicted Reactivity: Pig (83%), Bovine (92%), Horse (100%), Sheep (92%), Rabbit (100%), Dog (83%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-CtIP (Ser327) Antibody detects endogenous levels of CtIP only when phosphorylated at Ser327. Tissue Specificity: Expressed in ER-positive breast cancer lines, but tends to be down-regulated ER-negative cells (at protein level).
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-CtIP antibody	ELISA (Peptide ELISA), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human CtIP around the phosphorylation site of Ser327.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Acetylated. Deacetylation by SIRT6 upon DNA damage promotes DNA end resection. Hyperphosphorylation upon ionizing radiation results in dissociation from BRCA1. Phosphorylation at Thr-847 by CDK1 is essential for the recruitment to DNA and the DNA repair function. Phosphorylated on Ser-327 as cells enter G2 phase. This phosphorylation is required for binding BRCA1 and for the G2/M DNA damage transition checkpoint control. Phosphorylation at Thr-315, probably catalyzed by CDK2, is required for PIN1-binding, while phosphorylation at Ser-276 serves as a PIN1 isomerization site. Phosphorylation at Thr-315 is cell-cycle dependent. It steadily increases during S phase, peaks at late S/G2 phase, and drops at G1. Ubiquitinated. Ubiquitination at multiple sites by BRCA1 (via its N-terminal RING domain) does not lead to its proteasomal degradation but instead the ubiquitinated RBBP8 binds to chromatin following DNA damage and may play a role in G2/M checkpoint control. Ubiquitinated by RNF138 at its N-terminus. Ubiquitinated through 'Lys-48' by the E3 CUL3-KLHL15 complex; this modification leads to proteasomal degradation. Ubiquitinated by the E3 FZR1/APC/C complex; this modification leads to proteasomal degradation.

Subunit Structure	Homodimer; dimerizes via the coiled coil domain. Interacts (via the PXDLS motif) with CTBP1; the interaction is disrupted via binding of the adenovirus E1A to CTBP1. Component of the BRCA1-RBBP8 complex. Interacts (the Ser-327 phosphorylated form) with BRCA1 (via the C-terminal BRCA1 domains): the interaction occurs in the G2 phase, ubiquitinates RBBP8 and involves RBBP8 in BRCA1-dependent G2/M checkpoint control on DNA damage. Interacts with RB1. Interacts with the MRN complex. Interacts directly with MRE11; the interaction is required for efficient homologous recombination (HR) and regulation of the MRN complex. Interacts directly with RAD50. Interacts directly with NBN. Interacts with SIRT6; the interaction deacetylates RBBP8 upon DNA damage. Interacts with LM04 (via the LIM zinc-binding 1 domain). Interacts with SIAH1. Interacts with RNF138. Interacts with EXD2. Interacts with CUL3 and KLHL15; this interaction leads to RBBP8 proteasomal degradation. Directly interacts with PIN1; this interaction depends upon RBBP8 phosphorylation, predominantly at Thr-315. Interacts with FZR1; this interaction leads to APC/C-mediated RBBP8 proteasomal degradation. Interacts with AUNIP; leading to recruit RBBP8 to sites of DNA damage. Interacts with SAMHD1.
Similarity	The PXDLS motif binds to a cleft in CtBP proteins. The damage-recruitment motif is required for DNA binding and translocation to sites of DNA damage. Belongs to the COM1/SAE2/CtIP family.
Subcellular Location	Nucleus. Chromosome. Note: Associates with sites of DNA damage in S/G2 phase (PubMed:10764811, PubMed:25349192). Ubiquitinated RBBP8 binds to chromatin following DNA damage (PubMed:16818604).
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IHC (Immunohistochemistry)

At 1/200 staining Human lung cancer tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemisry)

At 1/200 staining Mouse brain tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary antibody.



IHC (Immunohiostchemistry)

Staining Rat intestinal tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of CTIP (Phospho-Ser327) using H2O2 treated 293 whole cell lysates. -/+ means absence or presence of N peptide(非phospho peptide) and P peptide(phospho peptide).

ADDITIONAL INFORMATION

Related Product Information for anti- CtIP antibody

Endonuclease that cooperates with the MRE11-RAD50-NBN (MRN) complex in DNA-end resection, the first step of double-strand break (DSB) repair through the homologous recombination (HR) pathway. HR is restricted to S and G2 phases of the cell cycle and preferentially repairs DSBs resulting from replication fork collapse. Key determinant of DSB repair pathway choice, as it commits cells to HR by preventing classical non-homologous end-joining (NHEJ). Functions downstream of the MRN complex and ATM, promotes ATR activation and its recruitment to DSBs in the S/G2 phase facilitating the generation of ssDNA. Component of the BRCA1-RBBP8 complex that regulates CHEK1 activation and controls cell cycle G2/M checkpoints on DNA damage. During immunoglobulin heavy chain class-switch recombination, promotes microhomology-mediated alternative end joining (A-NHEJ) and plays an essential role in chromosomal translocations (By similarity). Glyceraldehyde 3 phosphate dehydrogenase (GAPDH) is well known as one of the key enzymes involved in glycolysis. GAPDH is constitutively abundant expressed in almost cell types at high levels, therefore antibodies against GAPDH are useful as loading controls for Western Blotting. Some pathology factors, such as hypoxia and diabetes, increased or decreased GAPDH expression in certain cell types.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4506441
NCBI GeneID	5932
NCBI Accession #	NP_002885.1
NCBI GenBank Nucleotide #	NM_002894.2
UniProt Accession #	Q99708; O75371; Q8NHQ3; A6NKN2; A8K8W6; E7ETY1
Molecular Weight	101,942 Da
NCBI Official Full Name	DNA endonuclease RBBP8 isoform a
NCBI Official Synonym Full Names	retinoblastoma binding protein 8
NCBI Official Symbol	RBBP8
NCBI Official Synonym Symbols	RIM; COM1; CTIP; JWDS; SAE2; SCKL2
NCBI Protein Information	DNA endonuclease RBBP8; RBBP-8; CTBP-interacting protein; sporulation in the absence of SPO11 protein 2 homolog
UniProt Protein Name	DNA endonuclease RBBP8
UniProt Gene Name	RBBP8
UniProt Synonym Gene Names	CTIP; CtIP; RBBP-8; RIM; SAE2
UniProt Entry Name	COM1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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