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Anti-CTIP Antibody

Catalog # AP60625

Product Information

Application	WB, IHC
Primary Accession	Q99708
Reactivity	Human, Mouse, Mk
Host	Rabbit
Clonality	Polyclonal
Calculated MW	101942

Additional Information

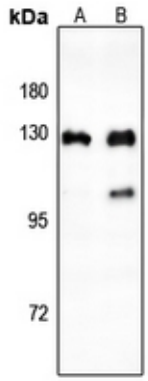
Gene ID	5932
Other Names	CTIP; DNA endonuclease RBBP8; CtBP-interacting protein; CtIP; Retinoblastoma-binding protein 8; RBBP-8; Retinoblastoma-interacting protein and myosin-like; RIM; Sporulation in the absence of SPO11 protein 2 homolog; SAE2
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human CTIP. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

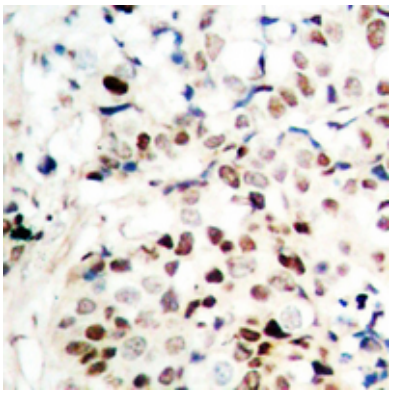
Name	RBBP8 (HGNC:9891)
Function	Endonuclease that cooperates with the MRE11-RAD50-NBN (MRN) complex in DNA-end resection, the first step of double-strand break (DSB) repair through the homologous recombination (HR) pathway (PubMed:17965729, PubMed:19202191, PubMed:19759395, PubMed:20064462, PubMed:23273981, PubMed:26721387, PubMed:27814491, PubMed:27889449, PubMed:30787182, PubMed:31802118). HR is restricted to S and G2 phases of the cell cycle and preferentially repairs DSBs resulting from replication fork collapse (PubMed:17965729, PubMed:19202191, PubMed:23273981, PubMed:27814491, PubMed:27889449, PubMed:30787182). Key determinant of DSB repair pathway choice, as it commits cells to HR by preventing classical non-homologous end-joining (NHEJ) (PubMed:19202191). Specifically promotes the endonuclease activity of

	the MRN complex to clear DNA ends containing protein adducts: recruited to DSBs by NBN following phosphorylation by CDK1, and promotes the endonuclease activity of MRE11 to clear protein-DNA adducts and generate clean double-strand break ends (PubMed:27814491, PubMed:27889449, PubMed:30787182, PubMed:33836577). 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 (PubMed:16581787, PubMed:17965729, PubMed:19759395, PubMed:20064462). Component of the BRCA1-RBBP8 complex that regulates CHEK1 activation and controls cell cycle G2/M checkpoints on DNA damage (PubMed:15485915, PubMed:16818604). 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). Binds preferentially to DNA Y-junctions and to DNA substrates with blocked ends and promotes intermolecular DNA bridging (PubMed:30601117).
Cellular Location	Nucleus. Chromosome Note=Associates with sites of DNA damage in S/G2 phase (PubMed:10764811, PubMed:25349192). Recruited to DSBs by the MRE11- RAD50-NBN (MRN) complex following phosphorylation by CDK1, which promotes interaction with NBN (PubMed:27814491, PubMed:27889449, PubMed:33836577). Ubiquitinated RBBP8 binds to chromatin following DNA damage (PubMed:16818604).
Tissue Location	Expressed in ER-positive breast cancer lines, but tends to be down-regulated ER-negative cells (at protein level)

Images



Western blot analysis of CTIP expression in HCT116 (A), MCF7 (B) whole cell lysates. (Predicted band size: 101 kD; Observed band size: 130 kD)



Immunohistochemical analysis of CTIP staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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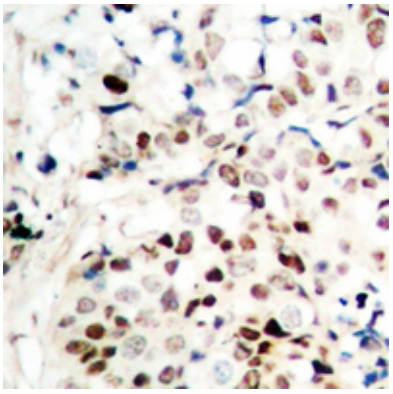

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