

# BANF1 Rabbit mAb

Catalog # AP78090

# **Product Information**

**Application** WB, IHC-P, IF, FC, ICC

Primary Accession <u>075531</u>

**Reactivity** Rat, Human, Mouse

**Host** Rabbit

**Clonality** Monoclonal Antibody

**Isotype** IgG

**Conjugate** Unconjugated

**Immunogen** A synthesized peptide derived from human BANF1

**Purification** Affinity Chromatography

Calculated MW 10059

### **Additional Information**

**Gene ID** 8815

Other Names BANF1

**Dilution** WB~~1/500-1/1000 IHC-P~~N/A IF~~1:50~200 FC~~1:10~50 ICC~~N/A

Format Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02%

sodium azide and 50% glycerol.

**Storage** Store at 4°C short term. Aliquot and store at -20°C long term. Avoid

freeze/thaw cycles.

#### **Protein Information**

Name BANF1 {ECO:0000303 | PubMed:21549337,

ECO:0000312 | HGNC:HGNC:17397}

**Function** Non-specific DNA-binding protein that plays key roles in mitotic nuclear

reassembly, chromatin organization, DNA damage response, gene expression

and intrinsic immunity against foreign DNA (PubMed: 10908652, PubMed: 11792822, PubMed: 12163470, PubMed: 18005698, PubMed: 25991860, PubMed: 28841419, PubMed: 31796734,

PubMed:32792394). Contains two non-specific double-stranded DNA (dsDNA)-binding sites which promote DNA cross-bridging (PubMed:9465049). Plays a key role in nuclear membrane reformation at the end of mitosis by driving formation of a single nucleus in a spindle-independent manner (PubMed:28841419). Transiently cross-bridges anaphase chromosomes via its ability to bridge distant DNA sites, leading to the formation of a dense

chromatin network at the chromosome ensemble surface that limits membranes to the surface (PubMed: <u>28841419</u>). Also acts as a negative

regulator of innate immune activation by restricting CGAS activity toward self-DNA upon acute loss of nuclear membrane integrity (PubMed:32792394). Outcompetes CGAS for DNA-binding, thereby preventing CGAS activation and subsequent damaging autoinflammatory responses (PubMed:32792394). Also involved in DNA damage response: interacts with PARP1 in response to oxidative stress, thereby inhibiting the ADP-ribosyltransferase activity of PARP1 (PubMed:31796734). Involved in the recognition of exogenous dsDNA in the cytosol: associates with exogenous dsDNA immediately after its appearance in the cytosol at endosome breakdown and is required to avoid autophagy (PubMed:25991860). In case of poxvirus infection, has an antiviral activity by blocking viral DNA replication (PubMed:18005698).

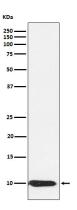
#### **Cellular Location**

Nucleus. Chromosome. Nucleus envelope. Cytoplasm. Note=Significantly enriched at the nuclear inner membrane, diffusely throughout the nucleus during interphase and concentrated at the chromosomes during the M-phase (PubMed:16495336, PubMed:24600006). The phosphorylated form (by VRK1) shows a cytoplasmic localization whereas the unphosphorylated form locates almost exclusively in the nucleus (PubMed:16495336, PubMed:24600006). May be included in HIV-1 virions via its interaction with viral GAG polyprotein (PubMed:14645565)

#### **Tissue Location**

Widely expressed. Expressed in colon, brain, heart, kidney, liver, lung, ovary, pancreas, placenta, prostate, skeletal muscle, small intestine, spleen and testis. Not detected in thymus and peripheral blood leukocytes.

# **Images**



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