

## Product Information

### Anti-Cullin-4A

produced in rabbit, affinity isolated antibody

Catalog Number **C0371**

### Product Description

Anti-Cullin-4A is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 46-65 of human cullin-4A (GeneID 8451), conjugated to KLH. The corresponding sequence is identical in rat cullin-4A. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Cullin-4A specifically recognizes human cullin-4A. The antibody may be used in immunoblotting (~89 kDa) and immunofluorescence Detection of the cullin-4A band by immunoblotting is specifically inhibited by the cullin-4A immunizing peptide.

Cullin-4 (Cul4) proteins are the core components of ubiquitin E3 ligases that regulate cell cycle, genome stability and DNA replication. Mammalian cells express two distinct but highly homologous cullin-4 proteins, cullin-4A and cullin-4B.<sup>1</sup> Cullin-4A (Cul4A), has been proposed to function as an E3 ligase involved in selecting specific targets for ubiquitylation. The Cul4A gene has been shown to be amplified and up-regulated in breast carcinoma and many other tumor types.<sup>2</sup> Cul4A associates with damage-specific DNA binding proteins DDB1 and DDB2, two subunits of a heterodimeric DDB protein complex that show a high affinity to UV-damaged DNA, and function as substrate-recruiting factors for Cul4A-Roc1 ligases.<sup>3-5</sup> The DDB1-Cul4A-Roc1 complex has been shown to regulate DNA repair, DNA replication and transcription. The COP9 signalosome has also been found in complex with DDB1-Cul4A-Roc1, regulating the ubiquitin ligase activities of this complex.<sup>6</sup> Cul4A is known to ubiquitylate several target proteins including DDB1/DDB2, CDT1, XPC, histone H2A, H3 and H4.<sup>7,8</sup> The Cul4A complex also plays differential roles in regulating the protein stability of p53 and MDM2/HDM2 in unstressed and stressed cells to facilitate cellular response to DNA damage.<sup>8</sup>

### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.5 mg/mL

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

### Product Profile

**Immunoblotting:** a working concentration of 1-2 µg/mL is recommended using HEK-293T cells expressing human Cullin-4A.

**Immunofluorescence:** a working concentration of 10-20 µg/mL is recommended using HeLa cells.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

### References

1. Kipreos, E.T., et al., *Cell*, **85**, 829-839 (1996).
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3. Shiyanov, P., et al., *J. Biol. Chem.*, **274**, 35309-35312 (1999).
4. Li, J., et al., *Cancer Res.*, **66**, 8590-8597 (2006).
5. Nag, A., et al., *Mol. Cell. Biol.*, **21**, 6738-6747 (2001).
6. Groisman, R., et al., *Cell*, **113**, 357-367 (2003).
7. Wang, H., et al., *Mol. Cell*, **22**, 383-394 (2006).
8. Banks, D., et al., *Cell Cycle*, **5**, 1719-1729 (2006).

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