

## Product Information

### Anti-Cullin-4B

produced in rabbit, affinity isolated antibody

Catalog Number **C9995**

#### Product Description

Anti-Cullin-4B is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 40-59 of human cullin-4B (GeneID 8450), conjugated to KLH. The corresponding sequence is identical in rat and mouse cullin-4B and is not found in the homolog cullin-4A. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Cullin-4B specifically recognizes human cullin-4B. The antibody can be used for immunoblotting (~100 kDa). Detection of the cullin-4B band by immunoblotting is specifically inhibited by the cullin-4B 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-4B (Cul4B), has been proposed to function as an E3 ligase involved in selecting specific targets for ubiquitylation. Mutations in Cul4B gene have been associated with x-linked mental retardation.<sup>2,3</sup> Cul4B associates with damage-specific DNA binding proteins DDB1 and DDB2, two subunits of a heterodimeric DDB protein complex that shows a high affinity to UV-damaged DNA, and functions as a substrate-recruiting factor for Cul4B E3 ligases.<sup>4-6</sup> Cul4A and Cul4B form individual E3 ligases. Cul4B colocalizes with DDB2 at UV-damaged DNA sites. In contrast to Cul4A, Cul4B has been shown to be localized to the nucleus and to facilitate the transfer of DDB1 into the nucleus independently of DDB2. Cul4B has been shown to ubiquitylate several target proteins including  $\beta$ -catenin, cyclin E, and histone H2A.<sup>5-7</sup> In contrast to Cul4A, Cul4B does not ubiquitinate DDB2.<sup>8</sup>

#### Reagent

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

Antibody concentration: ~1.0 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 at -20 °C. 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 antibody concentration of 0.7-1.5  $\mu$ g/mL is recommended using HEK-293T cells expressing human cullin-4B.

**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).
2. Tarpey, P.S., et al., *Am. J. Hum. Genet.*, **80**, 345-352 (2007).
3. Zou, Y., et al., *Am. J. Hum. Genet.*, **80**, 561-566 (2007).
4. Tripathi, R., et al., *J. Biosci.*, **30**, 329-337 (2005).
5. Tripathi, R., et al., *J. Biosci.*, **32**, 1133-1138 (2007).
6. Guerrero-Santoro, J., et al., *Cancer Res.*, **68**, 5014-5022 (2008).
7. Higa, L.A., et al., *Cell Cycle*, **5**, 71-77 (2006).
8. Nag, A., et al., *Mol. Cell. Biol.*, **21**, 6738-6747 (2001).

ER,KAA,PHC 03/09-1

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.