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Product Information

Anti-Cullin-2 (N-terminal)
produced in rabbit, affinity isolated antibody

Product Number **SAB4200207**

Product Description

Anti-Cullin-2 is developed in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the N-terminal of human cullin-2 (GeneID 8453), conjugated to KLH. The corresponding sequence is identical in rat and mouse cullin-2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Cullin-2 specifically recognizes human cullin-2. The antibody may be used in various immunochemical techniques including immunoblotting (~87 kDa). Detection of the cullin-2 band by immunoblotting is specifically inhibited by the cullin-2 immunizing peptide.

Cullin-2 (also known as CUL2) is a member of the cullin family of E3 ubiquitin-protein ligases.[1] Cullins function as scaffold proteins that assemble ubiquitin ligase complexes, responsible for targeting proteins for ubiquitin-dependent degradation by the proteasome. Cullin-2 is a component of the ElonginB/C-CUL2-Rbx1-Von Hippel Lindau (VHL) VBC complex that plays an essential role in the ubiquitin-dependent degradation of the hypoxia inducible transcription factors HIF1α and HIF2α (HIFα).[2,3] HIFα positively regulates VEGF and other hypoxia-inducible genes, that in turn regulate vasculogenesis. Hypoxic activation of gene expression results in part from increases in the cellular levels of HIFα that are rapidly ubiquitinated and degraded under normoxic conditions. VHL recognizes hydroxylated HIFα, and recruits the CUL2 associating complex leading to ubiquitination of HIFα.[4,5] RNAi-mediated knockdown of the CUL2-Rbx1 has been shown to inhibit the VHL-mediated degradation of HIF2α, indicating that CUL2 and Rbx1 are positively involved in the HIFα protein stabilization.[5] Nedd8 has been shown to conjugate to CUL2 in a process that requires the CUL2-VHL-Elongin B/C complex.[6] Cancer-causing mutations of VHL can prevent assembly with HIFα and core components of the E3 ubiquitin ligase complex, resulting in constitutive activation of HIFα targets.[7]

Reagent

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

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the 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 1-2 μg/mL is recommended using extracts of HEK-293T cells overexpressing human cullin-2.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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