10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

REV1 Antibody - C-terminal region

Rabbit Polyclonal Antibody
Catalog # AI16092

Product Information

Application	WB
Primary Accession	Q9UBZ9
Other Accession	XP_005264024
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	138248

Additional Information

Gene ID	51455
Alias Symbol	REV1, REV1L,
Other Names	DNA repair protein REV1, 2.7.7.-, Alpha integrin-binding protein 80, AIBP80, Rev1-like terminal deoxycytidyl transferase, REV1, REV1L
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 &mu, l of distilled water. Final Anti-REV1 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at -20°C. Avoid repeat freeze-thaw cycles.
Precautions	REV1 Antibody - C-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	REV1 (HGNC:14060)
Synonyms	REV1L
Function	Bifunctional protein involved in the maintenance of genome stability through translesion DNA synthesis (TLS) and antibody diversification via somatic hypermutation (PubMed:16263170, PubMed:23143872). Functions as a molecular adapter protein at stalled DNA replication, coordinating polymerases recruitment, selection, and switching, in a manner independent of its deoxycytidyl transferase activity (PubMed:23143872). At the site of DNA lesion, recruits and mediates the switch between low-fidelity inserter DNA polymerases, such as POLK, that incorporate nucleotides opposite lesions and the extender DNA polymerase zeta complex which continues DNA synthesis

	from distorted primer termini (PubMed:23143872). In vitro, acts as a template-dependent deoxycytidyl transferase that preferentially incorporates deoxycytidine residues from dCTP to the 3'-end of a DNA primer opposite apurinic/apyrimidinic (AP) site, uracil, undamaged DNA templates (G > A > C > T) and a variety of damaged DNA templates (PubMed:10536157, PubMed:11278384, PubMed:38612916). Opposite template guanine, efficiently incorporates not only dCMP but also non- complementary dGMP and dTMP, with lower efficiency for dAMP, demonstrating low fidelity on undamaged DNA (PubMed:10536157, PubMed:11711549, PubMed:38612916). This catalytic activity has been implicated in somatic hypermutation, likely achieved by incorporation of deoxycytidine opposite abasic sites, generated at cytidines via activation-induced deoxycytidine deaminase (AID)-mediated deamination and uracil DNA glycosylase (UNG) activity, respectively (PubMed:16263170). In addition, exhibits a 5'-deoxyribose-5-phosphate lyase activity in vitro, though its necessity in vivo is not confirmed (By similarity).
Cellular Location	Nucleus. Note=In response to replication stress, is recruited to stalled DNA replication through recognition of monoubiquitinated PCNA, and accumulates in nuclear foci in a process facilitated by FAAP20 binding (PubMed:22266823). Nuclear foci localization likely reflects the recruitment of REV1 to DNA lesions in response to replication stress, and depends on its ubiquitin-binding motif (UBM) domains (PubMed:22266823).
Tissue Location	Ubiquitous.

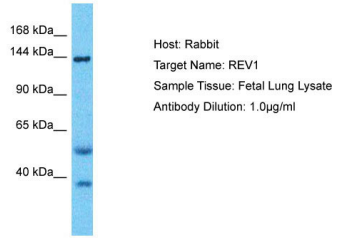
Background

Deoxycytidyl transferase involved in DNA repair. Transfers a dCMP residue from dCTP to the 3'-end of a DNA primer in a template-dependent reaction. May assist in the first step in the bypass of abasic lesions by the insertion of a nucleotide opposite the lesion. Required for normal induction of mutations by physical and chemical agents.

References

Lin W.,et al.Nucleic Acids Res. 27:4468-4475(1999).
Gibbs P.E.M.,et al.Proc. Natl. Acad. Sci. U.S.A. 97:4186-4191(2000).
Masuda Y.,et al.J. Biol. Chem. 276:15051-15058(2001).
Murakumo Y.,et al.J. Biol. Chem. 276:35644-35651(2001).
Ota T.,et al.Nat. Genet. 36:40-45(2004).

Images



Host: Rabbit
Target Name: REV1
Sample Tissue: Fetal Lung lysates
Antibody Dilution: 1.0µg/ml