Revision 1

Store at -20C

#13848

DNA Polymerase η (E1I7T) Rabbit mAb

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	80	Rabbit IgG	#Q9Y253	5429

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

Specificity/Sensitivity

DNA Polymerase η (E1I7T) Rabbit mAb recognizes endogenous levels of total POLH protein. The antibody recognizes a 40 kDa background band of unknown origin. In some cell lines, the antibody recognizes a 60 kDa band of unknown origin. This band does not correspond to the expected size of truncated POLH in GM03617 cells.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro309 of human POLH protein.

Background

A total of fifteen mammalian DNA polymerase enzymes catalyze the synthesis of nascent DNA during DNA replication and repair (1). DNA polymerase eta (POL η, POLH, Rad30) is one of a specialized type of DNA polymerases that function in DNA repair and translesion synthesis (TLS). POLH can accommodate and read through bulky DNA lesions such as pyrimidine dimers, which allows for continued DNA synthesis past lesions and limited stalling of replication forks (2,3). Damage inducing conditions, such as exposure to UV light or cisplatin, recruit POLH to sites of bulky DNA lesions where the polymerase interacts with PCNA (4,5). Mutations in the human *POLH* gene can result in a form of xeroderma pigmentosum (XPV), an autosomal recessive disorder characterized by hypersensitivity to light and susceptibility to skin cancer (6).

Background References

1. Lange, S.S. et al. (2011) *Nat Rev Cancer* 11, 96-110.
2. Cruet-Hennequart, S. et al. (2010) *Subcell Biochem* 50, 189-209.
3. Johnson, R.E. et al. (2000) *J Biol Chem* 275, 7447-50.
4. Albertella, M.R. et al. (2005) *Cancer Res* 65, 9799-806.
5. Haracska, L. et al. (2001) *Mol Cell Biol* 21, 7199-206.
6. Masutani, C. et al. (1999) *Nature* 399, 700-4.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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