Bio Academia
Manufacturer

AS ONE

Anti-DNA polymerase eta (human) antibody, mouse monoclonal (5H10)

70-071 100 µg

Description

DNA polymerase eta (713 aa, 78 kDa) is specifically involved in DNA repair. Plays an important role in translesion synthesis, where the normal high fidelity DNA polymerases cannot proceed and DNA synthesis stalls. Plays an important role in the repair of UV-induced pyrimidine dimers. Depending on the context, it inserts the correct base, but causes frequent base transitions and transversions. May play a role in hypermutation at immunoglobulin genes. Forms a Schiff base with 5'-deoxyribose phosphate at abasic sites, but does not have lyase activity. Targets POLI (Pol iota) to replication foci.

Xeroderma pigmentosum variant type (XPV) [MIM:278750]: An autosomal recessive pigmentary skin disorder characterized by solar hypersensitivity of the skin, high predisposition for developing cancers on areas exposed to sunlight and, in some cases, neurological abnormalities. XPV shows normal nucleotide excision repair, but an exaggerated delay in recovery of replicative DNA synthesis. Most patients with the variant type of xeroderma pigmentosum do not develop clinical symptoms and skin neoplasias until a later age. Clinical manifestations are limited to photo-induced deterioration of the skin and eyes.

This product was produced in serum-free medium by mouse hybridoma clone 5H10 and purified by ion-exchange chromatography processes under mild conditions

Applications

1. Western blot

Not tested for other application

Specification

Immunogen: Human recombinant full-size Pol eta tagged with His6.

Reactivity: Human Pol eta protein. Not tested in other species

Purity: 90~95% evaluated by SDS-PAGE

Form: 1 mg/ml in PBS, 50% glycerol, filter-sterilized, sodium azide and carrier protein-free.

Isotype: Mouse IgG1 (kappa)

Storage: Ship at 4°C or at -20°C. Centrifuge and store at -20°C

Data Link SwissProt: Q9Y253 Human

Entrez Gene: 5429 Human

Key Words: DNA polymerase eta, *POLH,* Y-family DNA polymerase, Xerderma pigmentosum variant type (XPV), Translesion DNA synthesis, Error-prone DNA polymerase, UV-sensitive, DNA damage tolerance, Skin cancer

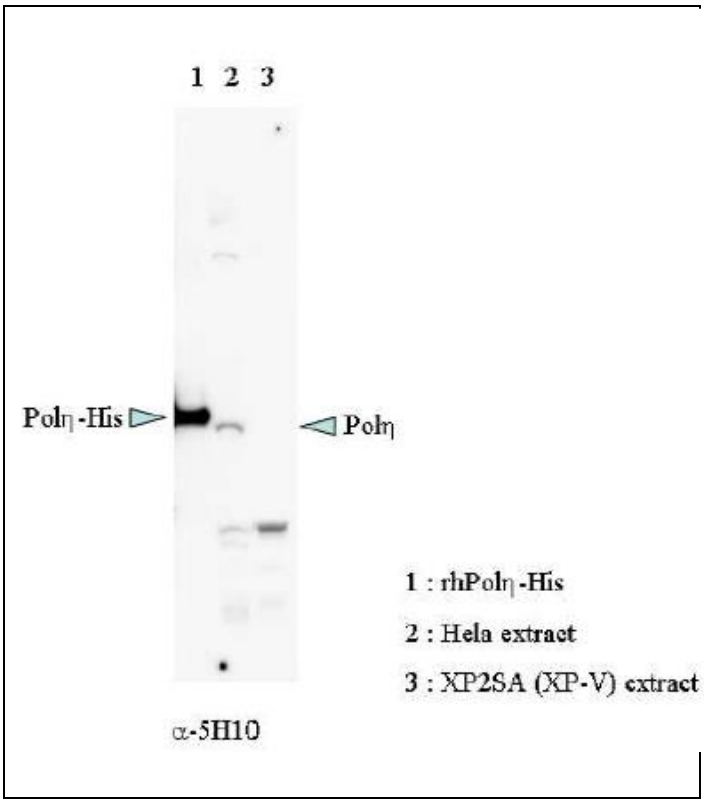

Fig.1 Identification of Pol eta in whole cell extract of HeLa cells by Western blot with anti-Pol eta antibody (5H10).
Lane 1: Recombinant full-size Pol eta with His6 tag at C-teminus. Positive control.
Lane 2: Whole cell extract of HeLa cells. ~40 ug protein applied. Positive control
Lane 3: Whole cell extract of XP2SA (XP-V) cells. ~40 ug protein applied. Negative control
PoL eta is detected at ~80 kDa position. 8% gel was used.
Data by courtesy of Prof. F. Hanaoka and Prof. C. Masutani at Osaka University.

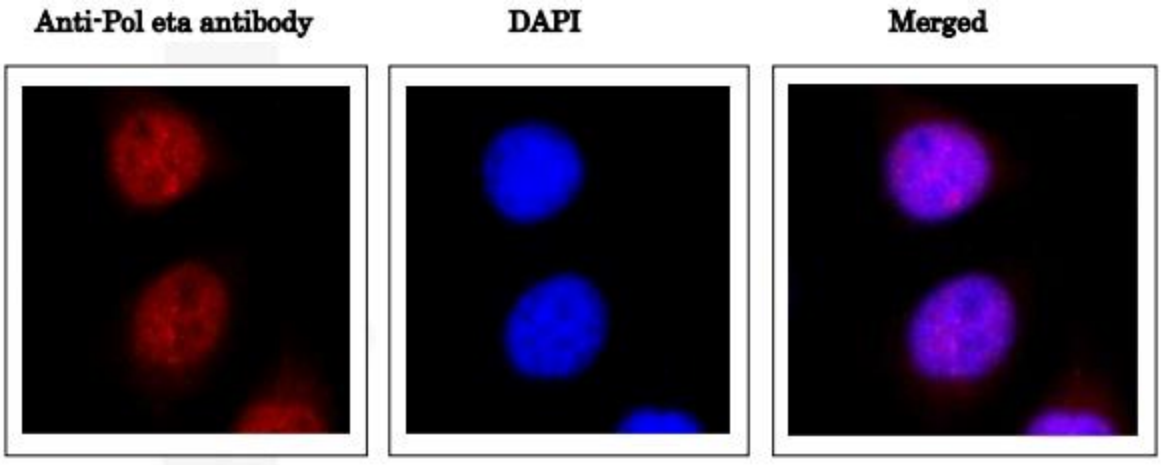

Fig.2 Immunofluorescence staining of DNA polymerase eta in HeLa cells with anti Pol eta antibody.
HeLa cells were fixed in 4% paraformaldehyde overnight and permeabilized in 0.25% TritonX 100 in PBS for 10 min. anti-Pol eta antibody was used at 1/1,000 dilution.