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

Anti-Human ELG-1 (RABBIT) Antibody

ELG-1 Antibody
Catalog # ASR5275

Specification

Anti-Human ELG-1 (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**This affinity purified antibody has been tested for use in ELISA and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 120 kDa in size corresponding to Elg1 by western blotting in the appropriate cell lysate or extract.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to amino acids 63-76 of Human Elg 1.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-Human ELG-1 (RABBIT) Antibody - Additional Information

Gene ID 79915

Other Names
79915

Purity
This affinity purified antibody is directed against human Elg1 protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis of the immunogen suggest full to partial reactivity with several hypothetical proteins. This is not unexpected for such a novel protein. The following proteins should be considered to be highly homologous to Elg1 when using this antibody: human chromosome fragility associated gene 1 (NP_079133), hypothetical dog protein FLJ12735 (XP_548276), hypothetical chimpanzee protein FLJ12735 (XP_511388), and a hypothetical human protein of 1224 residues (CAH10412). All show 100% homology to the immunogen. Reactivity against homologues from other sources is not known.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after

standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Human ELG-1 (RABBIT) Antibody - Protein Information

Name ATAD5 (HGNC:25752)

Function
Has an important role in DNA replication and in maintaining genome integrity during replication stress (PubMed:15983387, PubMed:19755857). Involved in a RAD9A-related damage checkpoint, a pathway that is important in determining whether DNA damage is compatible with cell survival or whether it requires cell elimination by apoptosis (PubMed:15983387). Modulates the RAD9A interaction with BCL2 and thereby induces DNA damage-induced apoptosis (PubMed:15983387). Promotes PCNA deubiquitination by recruiting the ubiquitin-specific protease 1 (USP1) and WDR48 thereby down-regulating the error-prone damage bypass pathway (PubMed:20147293). As component of the ATAD5 RFC-like complex, regulates the function of the DNA polymerase processivity factor PCNA by unloading the ring-shaped PCNA homotrimer from DNA after replication during the S phase of the cell cycle (PubMed:23277426, PubMed:23937667). This seems to be dependent on its ATPase activity (PubMed:23277426). Plays important roles in restarting stalled replication forks under replication stress, by unloading the PCNA homotrimer from DNA and recruiting RAD51 possibly through an ATR-dependent manner (PubMed:31844045). Ultimately this enables replication fork regression, breakage, and eventual fork restart (PubMed:31844045). Both the PCNA unloading activity and the interaction with WDR48 are required to efficiently recruit RAD51 to stalled replication forks (PubMed:31844045). Promotes the generation of MUS81-mediated single-stranded DNA-associated breaks in response to replication stress, which is an alternative pathway to restart stalled/regressed replication forks (PubMed:31844045).

Cellular Location
Nucleus. Note=Accumulates in nuclear foci at sites of stalled DNA replication forks in response to DNA damage

Anti-Human ELG-1 (RABBIT) Antibody - Protocols

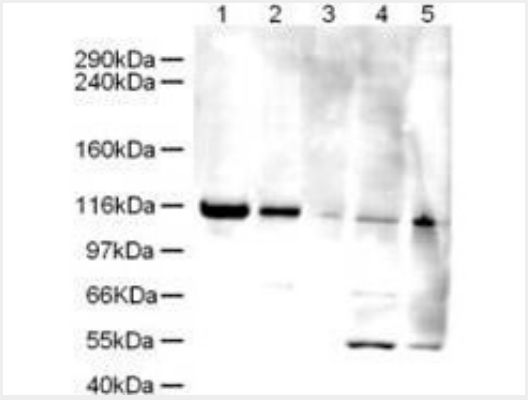
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot

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

- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Human ELG-1 (RABBIT) Antibody - Images



Western blot using Rockland's Affinity Purified anti-Elg1 antibody shows detection of a band ~120 kDa corresponding to human Elg1 in various cell lysates. Lane 1: HeLa nuclear extract (p/n W09-001-367), Lane 2: HeLa (p/n W09-000-364), Lane 3: A431 (p/n W09-000-361), Jurkat (p/n W09-001-370) and Lane 5: HEK293 (p/n W09-000-365) whole cell lysates. Load: ~5 µg per lane. After SDS-PAGE, transfer and blocking, the membrane was probed with the primary antibody diluted to 1:500. The membrane was then washed and reacted with a HRP conjugated Gt-a-Rabbit IgG [H&L] MX followed by ECL detection using a 2 m exposure time. The expected molecular weight of Elg1 is 120kDa according to Kanellis P et al. 2003, although the predicted molecular weight is 207 kDa. The 50kDa bands in Jurkat and 293 cell lysates are probably cross-reaction with other proteins. Both the 120 kDa and 50 kDa bands are not observed when antibody is pre-incubated with peptide (data not shown).

Anti-Human ELG-1 (RABBIT) Antibody - Background

ELG1 (also known as ATP(GTP)-binding protein or Chromosome fragility associated gene 1) is involved in a novel RFC complex that is probably involved in DNA damage and repair by ensuring replication fidelity. This antibody detects a band at about 120kDa in Hela, A431, Jurkat and HEK193 cells. This corresponds to the band size seen in Kanellis P et al. It remains unclear why the band size detected is much less than the 207kDa predicted in the protein sequence corresponding to CACC44537.2 (Q96QE3), but as our results correspond to those seen in Kanellis P et al. it is likely that the 120 kDa target is ELG1.