

DESCRIPTION

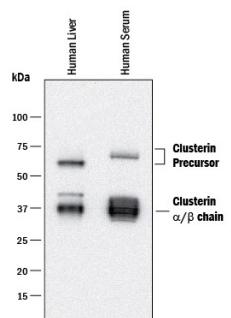
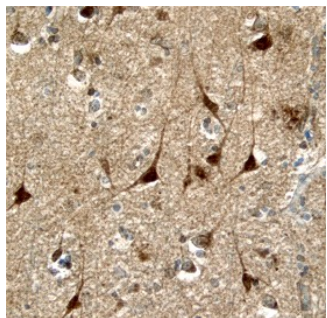
Species Reactivity	Human
Specificity	Detects human Clusterin in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 40% cross-reactivity with recombinant mouse Clusterin is observed and less than 5% cross-reactivity with recombinant rat Clusterin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Clusterin isoform 1 Asp75-Glu501 Accession # NP_001822
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Clusterin (Catalog # 2937-HS), see our available Western blot detection antibodies

DATA

<p>Western Blot</p> 	<p>Detection of Human Clusterin by Western Blot. Western blot shows lysates of human liver tissue and human serum. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human Clusterin Isoform 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2937) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). Specific bands were detected for Clusterin Precursor at approximately 60-65 kDa and Clusterin α and β chains at approximately 36 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunohistochemistry</p>  <p>Clusterin in Human Alzheimer's Disease Brain. Clusterin was detected in immersion fixed paraffin-embedded of human Alzheimer's disease brain using Human Clusterin Isoform 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2937) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.</p>
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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Clusterin, also known as Apolipoprotein J, Sulfated Glycoprotein 2 (SGP-2), TRPM-2, and SP-40,40, is a secreted multi-functional protein that was named for its ability to induce cellular clustering. It binds a wide range of molecules and may function as a chaperone of misfolded extracellular proteins. It also participates in the control of cell proliferation, apoptosis, and carcinogenesis (1, 2). Clusterin is predominantly expressed in adult testis, ovary, adrenal gland, liver, heart, and brain and in many epithelial tissues during embryonic development (3). Human Clusterin is synthesized as a precursor that contains two coiled coil domains, three nuclear localization signals (NLS), and one heparin binding domain (4-6). Intracellular cleavages of the precursor remove the signal peptide and generate comparably sized α and β chains which are secreted as an 80 kDa N-glycosylated disulfide-linked heterodimer (7, 8). Mature human Clusterin shares 77% amino acid sequence identity with mouse and rat Clusterin. High $\mu\text{g}/\text{mL}$ concentrations of Clusterin circulate predominantly as a component of high density lipoprotein particles, and these are internalized and degraded through interactions with LRP-2/Megalyn (9, 10). In human, an alternately spliced 50 kDa isoform of Clusterin (nCLU) lacks the signal peptide and remains intracellular (5, 11). This molecule is neither glycosylated nor cleaved into α and β chains (11). In the cytoplasm, nCLU destabilizes the actin cytoskeleton and inhibits NF κ B activation (12, 13). Cellular exposure to ionizing radiation promotes the translocation of nCLU to the nucleus where it interacts with Ku70 and promotes apoptosis (5, 11). This function contrasts with the cytoprotective effect of secreted Clusterin (14). During colon cancer tumor progression there is a downregulation of the intracellular form and an upregulation of the glycosylated secreted form (11).

References:

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