

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects recombinant human Clusterin in ELISAs.                                                                                                                                                                                                                              |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 350270                                                                                                                                                                                                                            |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Clusterin<br>Asp23-Arg227 (beta) & Ser228-Glu449 (alpha)<br>Accession # NP_001822                                                                                                                                     |
| <b>Conjugate</b>          | Alexa Fluor 700<br>Excitation Wavelength: 675-700 nm<br>Emission Wavelength: 723 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## 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.

|                                                |                                                                        |
|------------------------------------------------|------------------------------------------------------------------------|
| <b>ELISA Capture (Matched Antibody Pair)</b>   | Optimal dilution of this antibody should be experimentally determined. |
| <b>ELISA Detection (Matched Antibody Pair)</b> | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b>                    | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

Clusterin, also known as Apolipoprotein J, Sulfated Glycoprotein 2 (SGP-2), TRPM-2, and SP-40,40, is a secreted multifunctional 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  $\alpha$  and  $\beta$  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 µg/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/Megalin (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  $\alpha$  and  $\beta$  chains (11). In the cytoplasm, nCLU destabilizes the actin cytoskeleton and inhibits NF $\kappa$ 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).

## PRODUCT SPECIFIC NOTICES

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