

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Carboxylesterase1/CES-1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, 100% cross-reactivity with recombinant mouse (rm) CES-3 and no cross-reactivity with rmCES-2, rmCES-5, or recombinant human CES-2 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 544623
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Carboxylesterase1/CES-1 His19-Glu563 Accession # P23141
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunoprecipitation	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

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

BACKGROUND

Carboxylesterase 1 (CES-1) is a member of a large family of carboxylesterases that are responsible for the hydrolysis of ester and amide bonds (1, 2). They have broad substrate specificity ranging from small molecule esters such as phenylester to long chain fatty acid esters and thioesters. They play a major role as determinants of pharmacokinetic behavior for most therapeutic agents containing an ester. By de-esterification, they can activate or inactivate the agents. They also participate in detoxification of drugs such as cocaine and heroin in serum and liver. The resulting de-esterified metabolites are secreted out in urine. They can also detoxify organophosphate and carbamate analogues used in agrochemicals or chemical nerve agents, such as malathion, sarin, tabun, and VX. In addition to the hydrolytic activity, they can perform transesterification, a reaction important for cholesterol homeostasis. Carboxylesterase deficiency may be associated with non-Hodgkin lymphoma or B-cell lymphocytic leukemia. CES-1 shares the serine hydrolase fold observed in other esterases (3). CES-1 possesses an endoplasmic reticulum retention signal (HIEL) at its C-terminus.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.