

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 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 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.

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