

DESCRIPTION

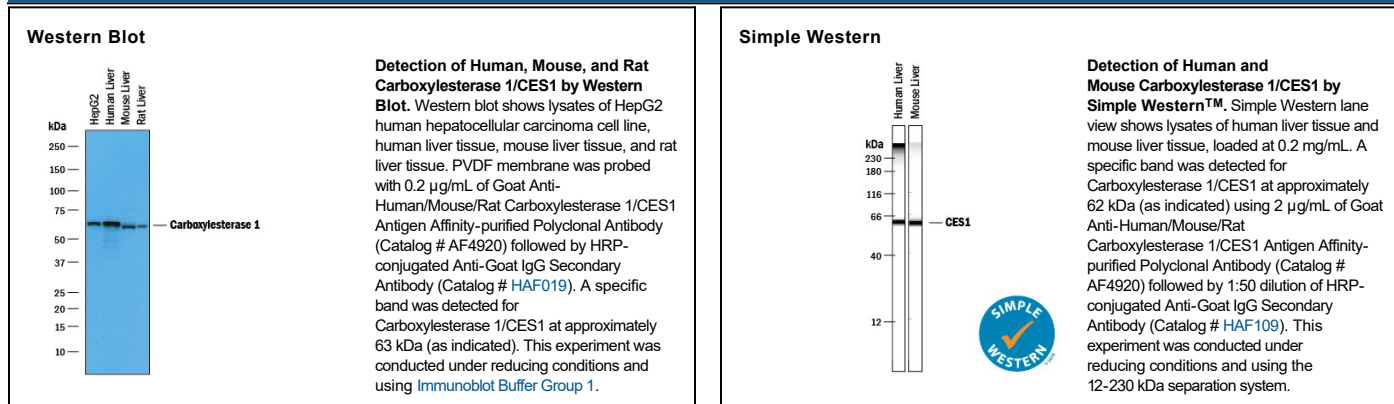
Species Reactivity	Human/Mouse/Rat
Specificity	Detects human Carboxylesterase 1/CES1 in direct ELISAs and Western blots. Detects mouse Carboxylesterase 1/CES1 and rat Carboxylesterase 1/CES1 in Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Carboxylesterase 1/CES1 His19-Glu563 Accession # NP_001020365
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	0.2 µg/mL	See Below
Simple Western	2 µg/mL	See Below

DATA



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

Carboxylesterase 1 (CES1) 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. CES1 shares the serine hydrolase fold observed in other esterases (3). CES1 possesses an endoplasmic reticulum retention signal (HIEL) at its C-terminus.

References:

1. Redinbo, M.R. and P.M. Potter (2005) *Drug Discovery Today* **10**:313.
2. Satoh, T. and M. Hosokawa (2006) *Chem. Biol. Interactions* **162**:195.
3. Fleming, C.D. *et al.* (2007) *Biochemistry* **46**:5603.