

CBR1 Antibody / Carbonyl reductase 1 [clone 30C98] (FY12902)

Catalog No.	Formulation	Size
FY12902	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

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Availability	2-3 weeks
Species Reactivity	Human
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	30C98
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P16152
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This CBR1 antibody is available for research use only.

Description

CBR1 antibody detects Carbonyl reductase 1, encoded by the CBR1 gene. Carbonyl reductase 1 is an NADPH dependent enzyme that catalyzes the reduction of carbonyl containing compounds to their corresponding alcohols. This enzyme is part of the short chain dehydrogenase/reductase family and has a broad substrate spectrum, including xenobiotics, endogenous prostaglandins, and pharmacological agents. CBR1 antibody provides a valuable tool for studying drug metabolism, detoxification, and cellular defense mechanisms against reactive carbonyl species.

Carbonyl reductase 1 contributes to the metabolism of anthracycline drugs such as doxorubicin, converting them to less active alcohol metabolites. While this reduces anticancer activity, it also influences drug toxicity, particularly cardiotoxicity. Research with CBR1 antibody has been central to understanding interindividual variability in anthracycline metabolism and its impact on therapeutic outcomes. CBR1 also reduces prostaglandins and quinones, helping regulate inflammatory responses and oxidative stress signaling.

CBR1 has been linked to cancer, cardiovascular disease, and neurodegeneration. Overexpression has been reported in several tumors, where it may promote resistance to chemotherapy. Conversely, genetic polymorphisms in the CBR1 gene influence enzymatic activity and alter susceptibility to drug side effects. Using CBR1 antibody, researchers have demonstrated its tissue specific expression, with high levels in liver, kidney, and heart, reflecting its role in systemic detoxification. These findings underscore the enzyme's dual role in both protecting tissues and modulating pharmacological efficacy.

CBR1 antibody is applicable in western blotting, immunohistochemistry, and enzymatic activity assays. Western blotting demonstrates isoform expression across tissues, while immunohistochemistry reveals cytosolic distribution. Activity based assays combined with CBR1 antibody confirm enzyme function and response to inhibitors. These approaches allow detailed mapping of metabolic pathways influenced by Carbonyl reductase 1.

By providing validated CBR1 antibody reagents, NSJ Bioreagents supports research into drug metabolism, pharmacogenetics, and detoxification pathways. Detection of Carbonyl reductase 1 offers insights into how cellular defenses interact with therapeutic agents and environmental exposures.

Application Notes

Optimal dilution of the CBR1 antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human CBR1 was used as the immunogen for the CBR1 antibody.

Storage

Store the CBR1 antibody at -20oC.