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ProductInformation

Anti-Paraoxonase 1 (PON1)
produced in rabbit, affinity isolated antibody

Catalog Number **P0123**

Product Description

Anti-Paraoxonase 1 (PON1**)** is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 298-309 of human PON1 (GeneID: 5444), conjugated to KLH via an N-terminal cysteine residue. The corresponding sequence differs by one amino acid in mouse and two amino acids in rat. The peptide sequence differs by one amino acid in human PON2 and two amino acids in human PON3. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Paraoxonase 1 (PON1) recognizes human PON1. Applications include immunoblotting (~40 kDa) and immunofluorescence. Detection of the PON1 band by immunoblotting is specifically inhibited by the immunizing peptide.

Paraoxonase is an esterase associated with high density lipoproteins (HDLs) in the plasma. PON1 belongs to the family of serum paraoxonases, consisting of PON1, PON2, and PON3. Human PONs map to the long arm of chromosome 7.[1] PON1 is polymorphic in human populations, and different individuals express widely different levels of this enzyme.[2] Serum PON1 activity in a given population can vary by 40-fold.[3] PON1 and PON3 are expressed in the liver and secreted into the blood where they are associated with the high-density lipoprotein (HDL) particle. PON2 is not expressed in blood but is widely expressed in a number of tissues, including liver, lung, brain and heart.[1]

PON1 protects lipids from oxidation in lipoproteins, macrophages, and erythrocytes. PON2 and PON3 were also shown to reduce oxidative stress.[4] Oxidation of LDL plays a major role in the initiation and progression of atherosclerosis.[5] PON1 may confer protection against coronary artery disease by destroying pro-inflammatory oxidized lipids present in oxidized low-density lipoproteins (LDLs).[6, 7] PON1 is also involved in the detoxification of organophosphate insecticides such as parathion, chlorpyrifos and diazinon, and nerve gases such as soman and sarin.[2]

PON1-deficient mice were found to be extremely sensitive to organophosphate toxicity and artherosclerosis.[6] PON1 levels can be modulated by environmental, nutritional, and possibly pharmaceutical factors.[3]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.5-1 µg/mL is recommended using a whole extract of human colorectal adenocarcinoma HT-29 cells.

Indirect immunofluorescence: a working concentration of 5-10 µg/mL is recommended by staining human HT-29 cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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