FMO4 Antibody / Flavin-Containing Monooxygenase 4 Polyclonal Antibody (R30983)

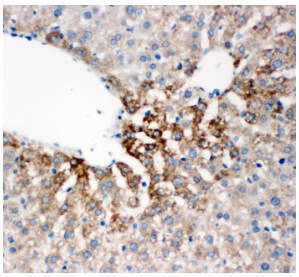
Catalog No.	Formulation	Size
R30983	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P31512
Applications	Western blot: 0.5-1ug/ml Immunofluorescence: 5ug/ml
Limitations	This FMO4 Antibody / Flavin-Containing Monooxygenase 4 Polyclonal Antibody is available for research use only.



FMO4 Antibody by IF in human MCF-7 cells. Immunofluorescence staining of human MCF-7 cells using FMO4 Antibody at 5 ug/ml. Green fluorescence indicates FMO4 immunoreactivity, while DAPI counterstaining identifies nuclei in blue. The image shows predominantly extranuclear green staining distributed throughout the cytoplasm, with areas of granular and reticular fluorescence and some enhancement near cell boundaries. Nuclear regions show comparatively little green signal. The cytoplasmic distribution is compatible with the microsomal localization of this enzyme, although the image does not independently establish association with a particular organelle. Enzymatic antigen retrieval was performed before overnight primary antibody incubation at 4oC. Detection used a Fluoro488-conjugated secondary antibody. This Flavin-Containing Monooxygenase 4 Polyclonal Antibody demonstrates cellular immunoreactivity.



FMO4 Antibody by WB in human cell lines and rodent tissues. Western blot analysis using FMO4 Antibody on samples separated by 10% SDS-PAGE under reducing conditions, with 30 ug of protein loaded per lane. Lane 1: human THP-1 cells; lane 2: human U251 cells; lane 3: human Jurkat cells; lane 4: human MCF-7 cells; lane 5: rat liver; lane 6: mouse kidney; lane 7: mouse liver. A prominent band appears near 63 kDa in all seven lanes, consistent with the predicted molecular weight of approximately 63.3 kDa. Some samples show additional weaker bands near the primary signal, particularly U251 and MCF-7. The Flavin-Containing Monooxygenase 4 Polyclonal Antibody was used at 0.5 ug/ml.

Description

FMO4 Antibody recognizes flavin-containing monooxygenase 4 (FMO4), a member of the flavin-containing monooxygenase family involved in the oxidative metabolism of endogenous compounds and xenobiotics. These microsomal enzymes catalyze oxygenation reactions involving substrates containing nucleophilic nitrogen, sulfur, or phosphorus atoms. FMO4 belongs to a group of NADPH-dependent oxidoreductases that contribute to cellular detoxification and the metabolism of pharmaceuticals and environmental chemicals.

The human FMO4 gene is located on chromosome 1, alongside several related flavin-containing monooxygenase genes. Members of this family contain conserved flavin adenine dinucleotide (FAD)-binding and NADPH-binding regions essential for enzymatic activity. Although individual FMOs share structural similarities, they differ in substrate preferences, catalytic efficiency, and physiological roles. FMO4 remains less extensively characterized than other family members, particularly FMO1 and FMO3.

Flavin-containing monooxygenases operate through a catalytic mechanism in which NADPH reduces the FAD cofactor, allowing molecular oxygen to form a reactive hydroperoxyflavin intermediate. This intermediate transfers an oxygen atom to suitable substrates, generating oxidized products. Unlike cytochrome P450 enzymes, FMOs do not require a separate electron-transfer protein for catalysis. These differences make the FMO family an important complementary system in oxidative drug metabolism.

FMO4 has also been associated with historical changes in flavin-containing monooxygenase nomenclature. Some older publications used designations that differ from current gene classifications, making it important to distinguish FMO4 from related enzymes when reviewing earlier research. Investigations of FMO4 may help clarify its contribution to xenobiotic metabolism, substrate selectivity, and the functional diversity of microsomal oxidoreductases.

NSJ Bioreagents offers reagents for investigating metabolic enzymes and their roles in cellular physiology. An FMO4 Antibody provides a research tool for examining flavin-containing monooxygenase 4 expression and studying the biological functions of this comparatively understudied enzyme.

For additional antibodies targeting enzymes involved in cellular metabolism and biochemical pathways, explore our Metabolism Antibodies collection.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the FMO4 Antibody / Flavin-Containing Monooxygenase 4 Polyclonal Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the N-terminus of human Flavin containing monooxygenase 4 (HEDYPNFMNHEKFWDYLQ) was used as the immunogen for this FMO4 antibody.

Storage

After reconstitution, the FMO4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Flavin-Containing Monooxygenase 4 antibody, Flavin Monooxygenase 4 antibody, FMO4 Polyclonal antibody, Adult Liver Flavin Monooxygenase antibody

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