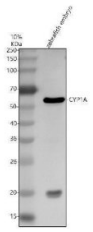
Zebrafish CYP1A Antibody / Cytochrome P450 1A Antibody (RZ1468)

Catalog No.	Formulation	Size
RZ1468	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Lyophilized from a buffered saline solution containing 2% trehalose. Reconstitute with 0.2 mL distilled water to yield a final antibody concentration of 500 ug/mL.
UniProt	Q8UW07
Applications	Western blot: 0.5-1ug/ml
Limitations	This Zebrafish CYP1A Antibody / Cytochrome P450 1A Antibody is available for research use only.



Zebrafish CYP1A Antibody WB. Western blot analysis of CYP1A expression was performed using anti-CYP1A antibody. Lane 1: zebrafish embryo tissue lysate. CYP1A is a heme-containing cytochrome P450 monooxygenase that catalyzes Phase I xenobiotic metabolism and serves as a major downstream target of aryl hydrocarbon receptor (AHR) signaling. A specific immunoreactive band is detected at approximately 58 kDa, consistent with the expected molecular weight of CYP1A. The strong expression observed in zebrafish embryos supports the established role of CYP1A in developmental toxicology, chemical metabolism, and environmental response pathways. These results demonstrate the utility of Zebrafish CYP1A Antibody for studies of xenobiotic metabolism, AHR signaling, environmental toxicology, and drug metabolism.

Description

Zebrafish CYP1A Antibody / Cytochrome P450 1A Antibody recognizes CYP1A, a member of the cytochrome P450 superfamily of heme-containing monooxygenases that catalyze the oxidative metabolism of endogenous compounds and environmental xenobiotics. CYP1A is a major downstream target of the aryl hydrocarbon receptor (AHR) signaling pathway and is rapidly induced following exposure to dioxins, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and numerous environmental contaminants. In zebrafish, CYP1A serves as one of the most widely used molecular biomarkers of xenobiotic exposure, toxicological responses, and AHR pathway activation. The strong

evolutionary conservation of CYP1A function makes zebrafish an important vertebrate model for environmental toxicology and chemical safety assessment.

Zebrafish CYP1A Antibody / Cytochrome P450 1A Antibody is well suited for studies of xenobiotic metabolism, developmental toxicology, and environmental health. CYP1A catalyzes Phase I oxidative reactions that increase the solubility of numerous endogenous molecules, pharmaceuticals, and environmental chemicals, facilitating their subsequent metabolism and elimination. Expression is highest in detoxification tissues such as liver and intestine but can also be induced in other organs following activation of AHR signaling. Because CYP1A expression responds rapidly and robustly to toxicant exposure, it is routinely used as a sensitive biomarker for evaluating environmental pollutants, endocrine disruptors, and aquatic contaminants.

Beyond xenobiotic metabolism, CYP1A contributes to lipid metabolism, oxidative stress responses, and maintenance of cellular homeostasis. Dysregulated CYP1A activity can alter susceptibility to chemical toxicity through the metabolic activation or detoxification of carcinogens and other bioactive compounds. Zebrafish models have become indispensable for investigating mechanisms of AHR signaling, developmental toxicity, drug metabolism, and gene-environment interactions because of their rapid development, optical transparency, and high genetic conservation with mammals.

Zebrafish CYP1A Antibody / Cytochrome P450 1A Antibody is an excellent research tool for studies of environmental toxicology, xenobiotic metabolism, AHR signaling, developmental biology, drug metabolism, and chemical safety assessment. Its conserved biological function and rapid inducibility make CYP1A one of the most informative biomarkers for investigating environmental exposure, toxicant responses, and vertebrate detoxification pathways.

Explore our CYP1A1 Antibody / Xenobiotic Metabolism Enzyme Antibody page for additional information on CYP1A1 function in oxidative metabolism, detoxification, and metabolic adaptation.

This Zebrafish antibody is part of a broader Zebrafish / Danio rerio antibody panel offered by NSJ Bioreagents.

Application Notes

The optimal working dilution of the Zebrafish CYP1A Antibody / Cytochrome P450 1A Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish CYP1A recombinant protein (amino acids Y28-F519) was used as the immunogen for the Zebrafish CYP1A Antibody.

Storage

After reconstitution, the Zebrafish CYP1A 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

Zebrafish CYP1A antibody, Zebrafish Cytochrome P450 1A antibody, Zebrafish CYP1A1 antibody, Zebrafish Cytochrome P450 Family 1 Subfamily A antibody, Zebrafish Xenobiotic Metabolism Enzyme antibody, Zebrafish Aryl Hydrocarbon Receptor Target Protein antibody

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