Revision 1

Store at -20C

#14719

CYP1A2 (D2V7S) Mouse mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	55	Mouse IgG1	#P05177	1544

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

CYP1A2 (D2V7S) Mouse mAb recognizes endogenous levels of total CYP1A2 protein. This antibody does not cross-react with CYP1A1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with 3-methylcholanthrene-induced rat liver microsomal fractions.

Background

Cytochrome P450 (CYP) is a family of enzymes that contain a heme group (1). These enzymes, when reduced and bound by carbon monoxide, maximally absorb light of 450 nm (1). Type I cytochrome P450s are found in mitochondria and function in the biosynthesis of essential molecules (1). Type II cytochrome P450s are found in endoplasmic reticulum (1). Some type II cytochrome P450s play a role in the biosynthesis of essential molecules whereas others metabolize xenobiotics (1). Research studies show that cytochrome P450s form various heteromeric complexes with other members of the P450 family influencing their catalytic activities (2-4). CYP1A2 is in the endoplasmic reticulum of hepatocytes and responsible for the breakdown of a variety of xenobiotic substances and bioactivation of carcinogens (2, 5). CYP1 enzymes, including CYP1A2, have been implicated in smoking-related osteoporosis (6). A meta-analysis shows that a particular polymorphism in *CYP1A2* is potentially linked to increased cancer risk (5).

Background References

1. Miller, W.L. (2012) *Sci Signal* 5, pt11.
2. Backes, W.L. and Kelley, R.W. (2003) *Pharmacol Ther* 98, 221-33.
3. Reed, J.R. et al. (2010) *J Biol Chem* 285, 8942-52.
4. Kelley, R.W. et al. (2006) *Biochemistry* 45, 15807-16.
5. Wang, H. et al. (2012) *BMC Cancer* 12, 528.
6. Iqbal, J. et al. (2013) *Proc Natl Acad Sci U S A* 110, 11115-20.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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Limited Uses

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