Cytochrome P450, Family 1, Subfamily A, Polypeptide 2 (CYP1A2) ELISA Kit for Human

PRODUCT OVERVIEW

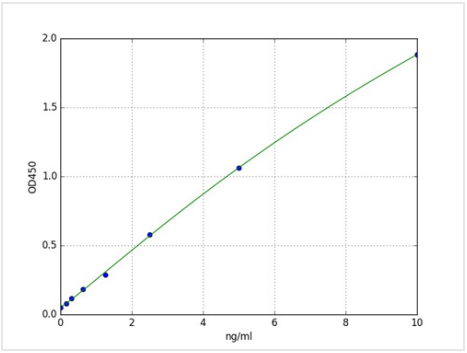
Product Name	Cytochrome P450, family 1, subfamily A, polypeptide 2 (CYP1A2), ELISA Kit
Full Product Name	Human Cytochrome P450, family 1, subfamily A, polypeptide 2 ELISA Kit
Product Gene Name	CYP1A2 elisa kit
Product Synonym Names	CYP1A2/Cytochrome P450 1A2/Cytochrome P450-P3/Cytochrome P450 4/CYPIA2/Cytochrome P (3)450
Species Reactivity	Human
Assay Type	Sandwich ELISA, Double Antibody
Samples	Serum, Plasma, Cell Culture Supernatant, cell or tissue lysate, Other liquid samples
Detection Range	0.156-10ng/ml
Sensitivity	0.094ng/ml
Preparation and Storage	Store entire kit at 2-8C for short-term. For longer-term, please store the microplate & standard at -20C, while the remaining reagents can be stored at 2-8C
Molecular Weight	58,407 Da
OMIM	108330
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Related Product Information for CYP1A2 elisa kit	Principle of the Assay||This kit was based on sandwich enzyme-linked immune-sorbent assay technology anti-Human CYP1A2 antibody was pre-coated onto 96-well plates. And the biotin conjugated anti-Human CYP1A2 antibody was used as detection antibodies. The standards, test samples and biotin conjugated detection antibody were added to the wells subsequently, and wash with wash buffer. HRP-Streptavidin was added and unbound conjugates were washed away with wash buffer. TMB substrates were used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the Human CYP1A2 amount of sample captured in plate. Read the O.D. absorbance at 450nm in a microplate reader, and then the concentration of Human CYP1A2 can be calculated.
Other Notes	Small volumes of CYP1A2 elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CYP1A2 purchase	MBS764247 is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Cytochrome P450, family 1, subfamily A, polypeptide 2 (CYP1A2) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing CYP1A2. The ELISA analytical biochemical technique of the MBS764247 kit is based on CYP1A2 antibody-CYP1A2 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect CYP1A2 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, CYP1A2. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).

Typical Data & Standard Curve

Results of a typical standard run of a Human CYP1A2 ELISA Kit are shown below. This standard curve was generated at our lab for demonstration purpose only. Each user should obtain their own standard curve as per experiment. (N/A=not applicable)

X	ng/ml	0	0.156	0.313	0.625	1.25	2.5	5	10
Y	OD450	0.025	0.157	0.289	0.448	0.875	1.168	1.692	2.772

Typical Testing Data of CYP1A2 elisa kit



Typical Standard Curve of CYP1A2 elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CYP1A2. It may not necessarily be applicable to this product.

NCBI GI #	119619719
NCBI GeneID	1544
NCBI Accession #	EAW99313.1
UniProt Secondary Accession #	Q16754; Q6NWU5; Q9BXX7; Q9UK49
UniProt Related Accession #	P05177
NCBI Official Full Name	cytochrome P450, family 1, subfamily A, polypeptide 2
NCBI Official Synonym Full Names	cytochrome P450 family 1 subfamily A member 2
NCBI Official Symbol	CYP1A2
NCBI Official Synonym Symbols	CP12; P3-450; P450(PA)
UniProt Protein Name	Cytochrome P450 1A2
UniProt Synonym Protein Names	CYPIA2; Cholesterol 25-hydroxylase
Protein Family	Cytochrome
UniProt Gene Name	CYP1A2
UniProt Entry Name	CP1A2_HUMAN
NCBI Protein Information	cytochrome P450 1A2
NCBI Summary for CYP1A2	This gene encodes a member of the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. The protein encoded by this gene localizes to the endoplasmic reticulum and its expression is induced by some polycyclic aromatic hydrocarbons (PAHs), some of which are found in cigarette smoke. The enzyme's endogenous substrate is unknown; however, it is able to metabolize some PAHs to carcinogenic intermediates. Other xenobiotic substrates for this enzyme include caffeine, aflatoxin B1, and acetaminophen. The transcript from this gene contains four Alu sequences flanked by direct repeats in the 3' untranslated region. [provided by RefSeq, Jul 2008]

UniProt Comments for CYP1A2	CYP1A2: Cytochromes P450 are a group of heme-thiolate monooxygenases. In liver microsomes, this enzyme is involved in an NADPH-dependent electron transport pathway. It oxidizes a variety of structurally unrelated compounds, including steroids, fatty acids, and xenobiotics. Most active in catalyzing 2-hydroxylation. Caffeine is metabolized primarily by cytochrome CYP1A2 in the liver through an initial N3-demethylation. Also acts in the metabolism of aflatoxin B1 and acetaminophen. Participates in the bioactivation of carcinogenic aromatic and heterocyclic amines. Catalizes the N-hydroxylation of heterocyclic amines and the O- deethylation of phenacetin. Belongs to the cytochrome P450 family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Xenobiotic Metabolism - drug metabolism - cytochrome P450; Xenobiotic Metabolism - metabolism by cytochrome P450; Secondary Metabolites Metabolism - caffeine; Cofactor and Vitamin Metabolism - retinol; Amino Acid Metabolism - tryptophan; Lipid Metabolism - linoleic acid; EC 1.14.14.1; Oxidoreductase Chromosomal Location of Human Ortholog: 15q24.1 Cellular Component: endoplasmic reticulum membrane; intracellular membrane-bound organelle Molecular Function: demethylase activity; electron carrier activity; enzyme binding; heme binding; iron ion binding; monooxygenase activity; oxidoreductase activity; oxidoreductase activity, acting on paired donors, with incorporation or reduction of molecular oxygen, reduced flavin or flavoprotein as one donor, and incorporation of one atom of oxygen Biological Process: alkaloid metabolic process; arachidonic acid metabolic process; cellular respiration; dibenzo-p-dioxin metabolic process; drug catabolic process; drug metabolic process; epoxygenase P450 pathway; exogenous drug catabolic process; heterocycle metabolic process; hydrogen peroxide biosynthetic process; lung development; methylation; monocarboxylic acid metabolic process; monoterpenoid metabolic process; porphyrin metabolic process; post-embryonic development; regulation of gene expression; response to estradiol stimulus; response to lipopolysaccharide; steroid catabolic process; toxin biosynthetic process; xenobiotic metabolic process
Research Articles on CYP1A2	**1.** The CYP1A2 -3860A genotype was associated with a decreased risk of breast cancer. In contrast, distributions of the -2467T/delT or -2467delT/delT and -163A/C or A/A genotypes among breast cancer patients and controls were similar.
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