

## Active Recombinant Human CYP3A5

**Cat. No.** CYP3A5-549H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <b>Product Overview</b> | Recombinant Human CYP3A5 was expressed in E. coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Description</b>      | <p>This gene, CYP3A5, 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. This protein localizes to the endoplasmic reticulum and its expression is induced by glucocorticoids and some pharmacological agents. The enzyme metabolizes drugs such as nifedipine and cyclosporine as well as the steroid hormones testosterone, progesterone and androstenedione. This gene is part of a cluster of cytochrome P450 genes on chromosome 7q21.1. This cluster includes a pseudogene, CYP3A5P1, which is very similar to CYP3A5. This similarity has caused some difficulty in determining whether cloned sequences represent the gene or the pseudogene. Multiple alternatively spliced transcript variants have been identified for this gene.</p> |
| <b>Bio-activity</b>     | 12-100 units/mg protein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Molecular Mass</b>   | mol wt 56998.2 g/mol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Unit Definition</b>  | One unit will convert 1.0 nanomole of testosterone to 6-beta-testosterone per minute at pH 7.4 at 37 °C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage</b>             | -70°C                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Concentration</b>       | 3.5-25 mg protein/mL (protein)50-150 nmol/mL (P450)6-14 nmol/mg protein (specific content)                                                                                                                                                                                                                                                                                         |
| <b>GENE INFORMATION</b>    |                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Gene Name</b>           | CYP3A5 cytochrome P450, family 3, subfamily A, polypeptide 5 [ Homo sapiens (human) ]                                                                                                                                                                                                                                                                                              |
| <b>Official Symbol</b>     | CYP3A5                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Synonyms</b>            | CYP3A5; CP35; PCN3; CYP3A5; P450PCN3; cytochrome P450, family 3, subfamily A, polypeptide 5; cytochrome P450 3A5; cytochrome P450 HLp2; cytochrome P450-PCN3; microsomal monooxygenase; xenobiotic monooxygenase; aryl hydrocarbon hydroxylase; flavoprotein-linked monooxygenase; cytochrome P450, subfamily IIIA (naphthalene oxidase), polypeptide 5; NP_000768.1; EC 1.14.14.1 |
| <b>Gene ID</b>             | 1577                                                                                                                                                                                                                                                                                                                                                                               |
| <b>mRNA Refseq</b>         | NM_000777                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Protein Refseq</b>      | NP_000768                                                                                                                                                                                                                                                                                                                                                                          |
| <b>MIM</b>                 | 605325                                                                                                                                                                                                                                                                                                                                                                             |
| <b>UniProt ID</b>          | P20815                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Chromosome Location</b> | 7q21.1                                                                                                                                                                                                                                                                                                                                                                             |

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|-----------------|-----------------------------------------------------------------------------------|
| <b>Pathway</b>  | Biological oxidations; Chemical carcinogenesis; Drug metabolism - cytochrome P450 |
| <b>Function</b> | aromatase activity; heme binding; iron ion binding                                |

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