

## Recombinant Human GSTA3, GST-tagged

**Cat. No.** GSTA3-27543TH    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <b>Product Overview</b> | Recombinant full length Human GSTA3 with N terminal proprietary tag. Predicted MW 50.53 kDa.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Source</b>           | Wheat Germ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>ProteinLength</b>    | 222 amino acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>      | <p>Cytosolic and membrane-bound forms of glutathione S-transferase are encoded by two distinct supergene families. These enzymes are involved in cellular defense against toxic, carcinogenic, and pharmacologically active electrophilic compounds. At present, eight distinct classes of the soluble cytoplasmic mammalian glutathione S-transferases have been identified: alpha, kappa, mu, omega, pi, sigma, theta and zeta. This gene encodes a glutathione S-transferase belonging to the alpha class genes that are located in a cluster mapped to chromosome 6. Genes of the alpha class are highly related and encode enzymes with glutathione peroxidase activity. However, during evolution, this alpha class gene diverged accumulating mutations in the active site that resulted in differences in substrate specificity and catalytic activity. The enzyme encoded by this gene catalyzes the double bond isomerization of precursors for progesterone and testosterone during the biosynthesis of steroid hormones. An additional transcript variant has been identified, but its full length sequence has not been determined.</p> |

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|                                 |                                                                                                                                                                                                                                                   |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conjugation</b>              | GST                                                                                                                                                                                                                                               |
| <b>Molecular Weight</b>         | 50.530kDa inclusive of tags                                                                                                                                                                                                                       |
| <b>Form</b>                     | Liquid                                                                                                                                                                                                                                            |
| <b>Purity</b>                   | Proprietary Purification                                                                                                                                                                                                                          |
| <b>Storage buffer</b>           | pH: 8.00Constituents:0.3% Glutathione, 0.79% Tris HCl                                                                                                                                                                                             |
| <b>Storage</b>                  | Shipped on dry ice. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles.                                                                                                                                                         |
| <b>Sequences of amino acids</b> | MAGKPKLHYFNNGRGRMEPIRWLLAAAGVEFEEKFIGSAED LGKLRNDGSLMFQQV<br>PMVEIDGIKLVQTRAILNYIASKYN LYGKDIKERALIDMYTEGMADLNEMILLPLCRP<br>EEKDAK IALIKEKTKSRYFPAPFEKVLQSHGQDYLGVGNKLSRADISL VELLYYVEELDS<br>SLISNFPLLKALKTRISNLPTVKKFLQP GSPRKPPADAKALEEARKIFRF |
| <b>Sequence Similarities</b>    | Belongs to the GST superfamily. Alpha family.Contains 1 GST C-terminal domain.Contains 1 GST N-terminal domain.                                                                                                                                   |

## GENE INFORMATION

|                        |                                                                                                       |
|------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | GSTA3 glutathione S-transferase alpha 3 [ Homo sapiens ]                                              |
| <b>Official Symbol</b> | GSTA3                                                                                                 |
| <b>Synonyms</b>        | GSTA3; glutathione S-transferase alpha 3; glutathione S transferase A3; glutathione S-transferase A3; |
| <b>Gene ID</b>         | 2940                                                                                                  |

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|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>mRNA Refseq</b>         | NM_000847                                                                                                                                                                                                                                                                              |
| <b>Protein Refseq</b>      | NP_000838                                                                                                                                                                                                                                                                              |
| <b>MIM</b>                 | 605449                                                                                                                                                                                                                                                                                 |
| <b>Uniprot ID</b>          | Q16772                                                                                                                                                                                                                                                                                 |
| <b>Chromosome Location</b> | 6p12.2                                                                                                                                                                                                                                                                                 |
| <b>Pathway</b>             | Biological oxidations, organism-specific biosystem; Drug metabolism - cytochrome P450, organism-specific biosystem; Drug metabolism - cytochrome P450, conserved biosystem; Glutathione conjugation, organism-specific biosystem; Glutathione metabolism, organism-specific biosystem; |
| <b>Function</b>            | glutathione transferase activity; glutathione transferase activity; glutathione transferase activity; transferase activity;                                                                                                                                                            |

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