

## Recombinant Rat Heme Oxygenase (Decycling) 2

Cat. No. Hmox2-2134R Lot. No. (See product label)

### SPECIFICATION

**Species** Rat

**Source** E.coli

**Description**

Heme Oxygenase-1 (HO-1) also known as Hsp32, is the inducible isoform of heme oxygenase that catalyzes the NADPH, oxygen, and cytochrome P450 reductase dependent oxidation of heme to carbon monoxide, ferrous iron and biliverdin which is rapidly reduced to bilirubin. These products of the HO reaction have important physiological effects: carbon monoxide is a potent vasodilator and has been implicated to be a physiological regulator of cGMP and vascular tone; biliverdin and its product bilirubin are potent antioxidants; "free" iron increases oxidative stress and regulates the expression of many mRNAs (e.g., DCT-1, ferritin and transferrin receptor) by affecting the conformation of iron regulatory protein (IRP)-1 and its binding to iron regulatory elements (IREs) in the 5'- or 3'- UTRs of the mRNAs. To date, three identified heme oxygenase isoforms are part of the HO system that catalyze heme into biliverdin and carbon monoxide. These are inducible HO-1 or Hsp32, constitutive HO-2 that is abundant in the brain and testis, and HO-3 which is related to HO-2 but is the product of a different gene. The HO system is the rate-limiting step in heme degradation and HO activity decreases the levels of heme which is a well known potent catalyst of lipid peroxidation and oxygen radical formation.

**Source/Host** E. coli.

**Purity Detail** Multi-step chromatography.

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|                          |   |
|--------------------------|---|
| <b>Formulation</b>       | Liquid. Recombinant rat HO-2 protein expressed in E. coli, in DPBS (8.1mM Na <sub>2</sub> PO <sub>4</sub> ·7H <sub>2</sub> O, 1.5mM KH <sub>2</sub> PO <sub>4</sub> , 2.7mM KCl, 137mM NaCl). |
| <b>Application</b>       | Western blot Control.   |
| <b>Long Term Storage</b> | -20°C.  |

## GENE INFORMATION

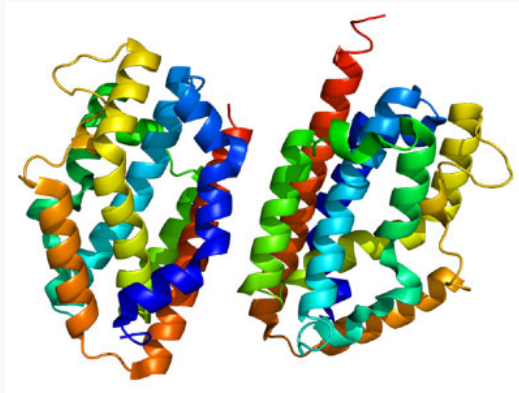
|                            |   |
|----------------------------|---|
| <b>Gene Name</b>           | Hmox2 heme oxygenase (decycling) 2 [ Rattus norvegicus ]  |
| <b>Synonyms</b>            | heme oxygenase (decycling) 2; Ho-2; Hmox2; heme oxygenase 2; heme oxygenase-2 non-reducing isoform                            |
| <b>Gene ID</b>             | 79239   |
| <b>mRNA Refseq</b>         | NM_024387   |
| <b>Protein Refseq</b>      | NP_077363   |
| <b>UniProt ID</b>          | P23711  |
| <b>Chromosome Location</b> | 10q12   |
| <b>Pathway</b>             | Porphyrin and chlorophyll metabolism  |
| <b>Function</b>            | heme oxygenase (decyclizing) activity; electron carrier activity; metal ion binding; oxidoreductase activity; protein binding |

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PDB rendering based  
on 2q32.



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