Recombinant Rat Heme Oxygenase (Decycling) 2

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

SPECIFICATION

Product Overview	
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 transferring 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.

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Purity Detail	Multi-step chromatography.
Formulation	Liquid. Recombinant rat HO-2 protein expressed in E. coli, in DPBS (8.1mM Na2PO4.7H2O, 1.5mM KH2PO4, 2.7mM KCl, 137mM NaCl).
Application	Western blot Control.
Long Term Storage	-20°C.

GENE INFORMATION

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

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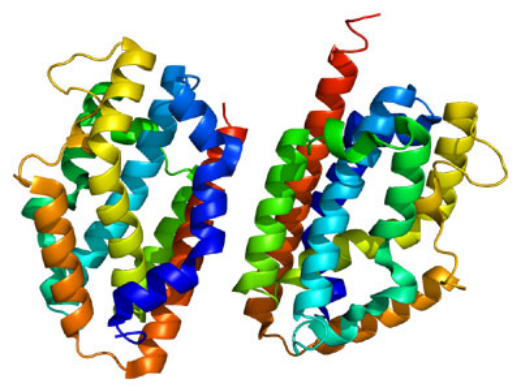
PDB rendering based on 2q32.	

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