PRODUCT INFORMATION

HO-1 (human, recombinant)

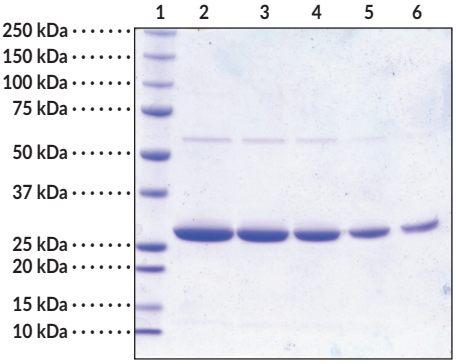
Item No. 22731

Overview and Properties

Synonyms:	Heat Shock Protein 32, Heme Oxygenase-1, HMOX1, Hsp32
Source:	Recombinant C-terminal His-tagged expressed in *E. coli*
Amino acids:	1-265 (full length)
Uniprot No.:	P09601
Molecular Weight:	31 kDa
Storage:	-80°C (as supplied)
Stability:	≥3 years
Purity:	***batch specific*** (≥90% estimated by SDS-PAGE)
Supplied in:	50 mM HEPES, pH 8.0, with 150 mM sodium chloride
Protein Concentration:	***batch specific*** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: HO-1 (8 µg)
Lane 3: HO-1 (6 µg)
Lane 4: HO-1 (4 µg)
Lane 5: HO-1 (2 µg)
Lane 6: HO-1 (1 µg)

Representative gel image shown; actual purity may vary between each batch.

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Description

Heme oxygenase-1 (HO-1), also known as heat shock protein 32 (Hsp32), is an inducible heme oxygenase encoded by the HMOX1 gene.[1-3] It is a membrane-bound enzyme that catalyzes the cleavage of heme to release carbon monoxide (CO), ferrous ions (Fe^{2+}), and biliverdin, with biliverdin being further processed into bilirubin. HO-1 is found in human spleen, liver, and kidney where its expression is induced by the presence of heme, hormones, metals, oxidative agents, and therapeutic compounds to protect against oxidative stress and inflammatory responses. HO-1 is upregulated in a variety of cancers and siRNA knockdown of *HMOX1* or inhibition of HO-1 decreases cancer cell proliferation.[4-6] HO-1 also interacts with the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) accessory protein Orf3a that, in a similar virus, SARS-CoV, is associated with activation of the NLRP3 inflammasome.[7-9] Cayman's HO-1 protein can be used for ELISA and Western blot (WB) applications.

References

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5. Nowis, D., Legat, M., Grzela, T., *et al.* Heme oxygenase-1 protects tumor cells against photodynamic therapy-mediated cytotoxicity. *Oncogene* **25(24)**, 3365-3374 (2006).
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