Technical Data Sheet

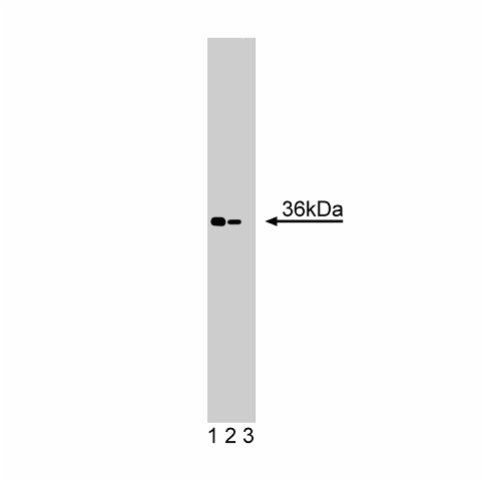
Purified Mouse Anti-Heme Oxygenase 2

Product Information

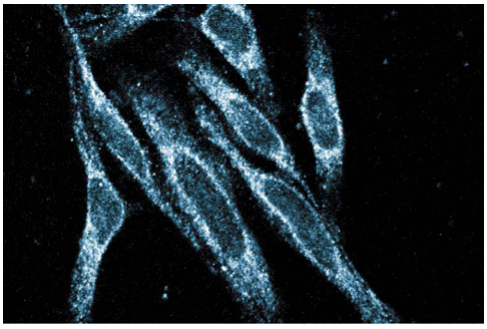
Material Number:	**611054**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	44/Heme Oxygenase 2
Immunogen:	Human HO-2 aa. 5-115
Isotype:	Mouse IgG2b
Reactivity:	QC Testing: Human
Target MW:	36 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Heme **O**xygenase (HO) mediates the degradation of heme into biliverdin, free iron, and carbon monoxide (CO). HO exists as two isozymes, designated HO-1 and HO-2. These two isoforms share about 40% amino acid similarity including several stretches of highly conserved sequences with matched predicted secondary structure. HO-1, the inducible form, is found primarily in spleen and liver Kupffer cells. However, HO-2 is constitutively expressed in abundance in brain, testis, and liver parenchymal cells. Although HO-1 has an established physiological role in heme catabolism, the HO-2 mechanism is unclear. However, the HO-2 heme- inding pocket is similar to that of HO-1 and heme degradation is thought to proceed by similar mechanisms. In the brain, HO-2 colocalizes with neuronal nitric oxide synthase (nNOS) within adventitial neurons and in autonomic ganglia. Like the neurotransmitter NO, CO produced by HO-2 stimulates guanylyl cyclase Also, HO-2 may function to limit acute and chronic inflammatory responses. Thus, HO-2 serves as a mediator of heme degradation and, in doing so, may generate molecules important for neurotransmission and possibly immunomodulation.



***Western blot analysis of Heme Oxygenase on SW13 lysate**. Lane 1: 1:250, lane 1: 1:500, lane 3: 1:1000 anti-HO-2 antibody.*



Immunofluorescent staining of HeLa cells.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:
Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml.

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Suggested Companion Products

Catalog Number	Name	Size	Clone
611475	SW-13 Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Ishikawa K, Takeuchi N, Takahashi S. Heme oxygenase-2. Properties of the heme complex of the purified tryptic fragment of recombinant human heme oxygenase-2. *J Biol Chem.* 1995; 270(11):6345-6350.(Biology)

Willis D, Moore AR, Frederick R, Willoughby DA. Heme oxygenase: a novel target for the modulation of the inflammatory response. *Nat Genet.* 1996; 2(1):87-90. (Biology)

Zakhary R, Poss KD, Jaffrey SR. Targeted gene deletion of heme oxygenase 2 reveals neural role for carbon monoxide. *Proc Natl Acad Sci U S A.* 1997; 94(26):14848-14853.(Biology)