

## Product Information

### Monoclonal Anti-FTH1, clone FTH24

produced in mouse, purified immunoglobulin

Catalog Number **SAB4200598**

#### Product Description

Monoclonal Anti-FTH1 (mouse IgG1 isotype) is derived from the hybridoma FTH24 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to an internal sequence of human FTH1 (GeneID: 2495). The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-FTH1 recognizes human FTH1. The product may be used in several immunochemical techniques including immunoblotting, immunocytochemistry and flow cytometry.

Ferritin plays an important role in the storage and release of iron, an element utilized in cellular processes such as respiration, gene regulation, and DNA replication and repair. Ferritin in animals is composed of 24 ferritin light (FTL) and ferritin heavy (FTH) subunits in ratios that vary in different cell types.<sup>1</sup> FTH catalyzes the first step in iron storage, the oxidation of Fe(II), whereas FTL chains promote the nucleation of ferrihydrite, enabling storage of Fe(III).<sup>2</sup> In addition to iron buffering, heavy chain ferritin also enhances thymidine biosynthesis.<sup>3</sup> Serum ferritin level is the most commonly used marker for determining iron status stored in the body. It is markedly influenced by factors such as inflammation, malnutrition, malignancy, and iron overload disorders.<sup>4</sup> Studies have found that defects in ferritin proteins are also associated with several neurodegenerative diseases.<sup>5</sup> Interestingly, FTH1 was also suggested as a possible prognostic marker for breast cancer.<sup>6</sup>

#### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### Storage/Stability

For extended storage, freeze at  $-20^{\circ}\text{C}$  in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

#### Product Profile

**Immunoblotting:** a working concentration of 0.5-1.0  $\mu\text{g/mL}$  is recommended using total cell extracts of HEK-293T cells overexpressing FTH1 (expected: ~26 kDa).

**Immunofluorescence:** a working concentration of 5-10  $\mu\text{g/mL}$  is recommended using HeLa cells.

**Flow Cytometry:** a working dilution of 10-20  $\mu\text{g/test}$  is recommended using HeLa cells.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

#### References

1. Sammarco, M.C., et al., *J. Biol. Chem.*, **283**, 4578-4587 (2008).
2. Treffry, A., et al., *FEBS Lett.*, **302**, 108-112 (1992).
3. Oppenheim, E.W., et al., *J. Biol. Chem.*, **276**, 19855-19861 (2001).
4. Tang, D.C., *Nat. Clin. Pract. Nephrol.*, **5**, 66-67 (2009).
5. Fischer, P., et al., *Life, Sci.*, **60**, 2273-2278 (1997).
6. Kanojia, D., et al., *Proteomics* **12**, 3407-3415 (2012).

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