SANTA CRUZ BIOTECHNOLOGY, INC.

MIF (h3): 293T Lysate: sc-129141

BACKGROUND

Macrophage migration inhibitory factor, known as MIF or glycosylation-inhibiting factor, is a secreted, homotrimeric, pro-inflammatory cytokine that modulates macrophage and T cell function and is an important regulator of host response to infection. MIF is expressed at sites of inflammation, which suggests that it plays a role in regulating macrophage function in host defense. MIF is produced by the pituitary gland and is found in monocytes, macrophages, differentiating immunological cells in the eye lens and brain, and fibroblasts. Elevated levels of MIF protein are detected in the plasma of patients with severe sepsis or septic shock, a condition where MIF influences endotoxic shock by enhancing the production of other inflammatory cytokines including tumor necrosis factor α (TNFα), interleukin-1 (IL-1) and interferon-γ (IFN-γ). MIF promotes the systemic inflammatory response by counter-regulating glucocorticoid-mediated inhibition of immune-cell activation and proinflammatory cytokine production. MIF may mediate tissue destruction through the induction of proteinases.

REFERENCES

1. Weiser, W.Y., et al. 1989. Molecular cloning of a cDNA encoding a human macrophage migration inhibitory factor. Proc. Natl. Acad. Sci. USA 86: 7522-7526.
2. Paralkar, V., et al. 1994. Cloning the human gene for macrophage migration inhibitory factor (MIF). Genomics 19: 48-51.
3. Bernhagen, J., et al. 1994. Purification, bioactivity, and secondary structure analysis of mouse and human macrophage migration inhibitory factor (MIF). Biochemistry 33: 14144-14155.
4. Lubetsky, J.B., et al. 1999. Pro-1 of macrophage migration inhibitory factor functions as a catalytic base in the phenylpyruvate tautomerase activity. Biochemistry 38: 7346-7354
5. Onodera, S., et al. 1999. High expression of macrophage migration inhibitory factor in the synovial tissues of rheumatoid joints. Cytokine 11: 163-167.
6. Benigni, F., et al. 2000. The proinflammatory mediator macrophage migration inhibitory factor induces glucose catabolism in muscle. J. Clin. Invest. 106: 1291-1300.
7. Calandra, T., et al. 2000. Protection from septic shock by neutralization of macrophage migration inhibitory factor. Nat. Med. 6: 164-170.

CHROMOSOMAL LOCATION

Genetic locus: MIF (human) mapping to 22q11.23.

PRODUCT

MIF (h3): 293T Lysate represents a lysate of human MIF transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

MIF (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive MIF antibodies. Recommended use: 10-20 µl per lane.

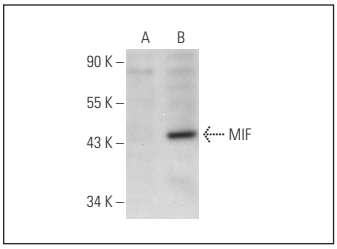
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MIF (11): sc-130329 is recommended as a positive control antibody for Western Blot analysis of enhanced human MIF expression in MIF transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



MIF (11): sc-130329. Western blot analysis of MIF expression in non-transfected: sc-117752 (**A**) and human MIF transfected: sc-129141 (**B**) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.