

Shigatoxin (STX-3): sc-69867

BACKGROUND

Hemolytic uremic syndrome (HUS) is the number one cause of acute renal failure in children worldwide. HUS is characterized by microangiopathic hemolytic anemia, a low platelet count and diarrhea. Shigatoxins (Stxs) produced by *Shigella dysenteriae* type 1 and enterohemorrhagic *Escherichia coli* are the most common cause of HUS. Shigatoxin 1 (Stx1) is an *Escherichia coli* protein that increases arachidonate release and eicosanoid production in glomerular epithelial cells, thereby inhibiting protein synthesis. It also increases cytokine release by renal epithelial cells. Proximal tubule inflammatory cytokine production is stimulated by Stx1, which also stimulates IL-6 mRNA accumulation when it is overexpressed. Brain injury in HUS is related to Stx1 binding to globotriaosylceramide. Inhibition of p38 MAPK significantly reduces the inflammatory cytokine upregulation of Stx-receptor synthesis and cell surface expression, thereby decreasing Stx cytotoxicity.

REFERENCES

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RESEARCH USE

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

SOURCE

Shigatoxin (STX-3) is a mouse monoclonal antibody raised against Shigatoxin of *E. coli* origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Shigatoxin (STX-3) is recommended for detection of Shigatoxin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of Shigatoxin holotoxin: 70 kDa.

Molecular Weight of Shigatoxin catalytic A subunit: 27-32 kDa.

Molecular Weight of Shigatoxin multimeric B subunit: 8 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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