Anti-Sudan I Antibody [Huam029]

HA721145

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Applications:	ELISA
Molecular Wt:	Predicted band size: 248 Da
Clone number:	Huam029

Description: Sudan I (also commonly known as CI Solvent Yellow 14 and Solvent Orange R), is an organic compound, typically classified as an azo dye. Sudan I is one of the industry dyes and widely used in cosmetics, wax agent, solvent and textile. Sudan I has multiple toxicity such as carcinogenicity, mutagenicity, genotoxicity and oxidative damage. It is an intensely orange-red solid that is added to colourise waxes, oils, petrol, solvents, and polishes. Sudan I has also been adopted for colouring various foodstuffs, especially curry powder and chili powder, although the use of Sudan I in foods is now banned in many countries, because Sudan I, Sudan III, and Sudan IV have been classified as category 3 carcinogens (not classifiable as to its carcinogenicity to humans) by the International Agency for Research on Cancer. Sudan I is still used in some orange-coloured smoke formulations and as a colouring for cotton refuse used in chemistry experiments. Sudan 1 is a compound being warned of for health hazards by the EU regulation. It may cause allergic skin reactions and irritation of the skin. Exposure to the skin can happen by direct exposure to textile workers or by wearing tight-fitting textiles dyed with Sudan 1. Allergic reactions are induced when the azo dye binds to the human serum albumin (HSA), forming a dye-HSA conjugate, which immunoglobulin E binds to, which causes a release of histamine.

Immunogen: Sudan I-OVA.

Positive control: Sudan I

Recommended Dilutions:

ELISA	1:250-1:16,000

Storage Buffer: 1*PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

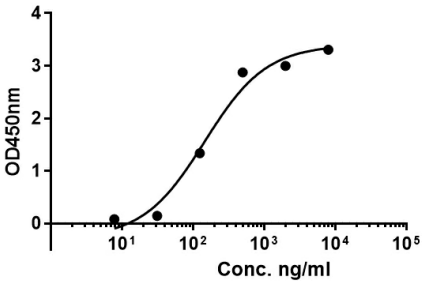

Fig1: Indirect ELISA analysis of Sudan I was performed by coating wells of a 96-well plate with 50 µl per well of Sudan I-OVA diluted in carbonate/bicarbonate buffer, at a concentration of 1 µg/mL overnight at 4℃. Wells of the plate were washed, blocked with 1%BSA blocking buffer, and incubated with 100 µl per well of Sudan I monoclonal antibody starting at a concentration of 20 µg/mL and serially diluting it to a concentration of 1.28 ng/mL for 1 hours at room temperature. The plate was washed and incubated with 50 µl per well of an HRP-conjugated goat anti-Rabbit IgG secondary antibody at a dilution of 1:15,000 for one hour at room temperature. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

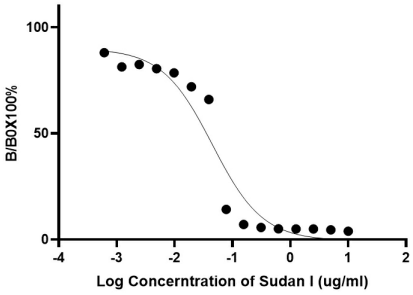

Fig2: Competitive ELISA analysis of Sudan I was performed by coating wells of a 96-well plate with 50 µl per well of Sudan I-OVA diluted in carbonate/bicarbonate buffer, at a concentration of 0.1 µg/mL overnight at 4℃. Wells of the plate were washed, blocked with 1%BSA blocking buffer, and incubated with 100 µl per well of Sudan I monoclonal antibody at concentration of 0.5 µg/mL with serial diluted Sudan I starting from a concentration of 10ug/ml for 1 hours at room temperature. The plate was washed and incubated with 50 µl per well of an HRP-conjugated goat anti-Rabbit IgG secondary antibody at a dilution of 1:15,000 for one hour at room temperature. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Xing CH. et. al. Melatonin reverses mitochondria dysfunction and oxidative stress-induced apoptosis of Sudan I-exposed mouse oocytes. Ecotoxicol Environ Saf. 2021 Dec
2. Pham TC. et. al. Determination of Sudan I and II in Food by High-Performance Liquid Chromatography after Simultaneous Adsorption on Nanosilica. J Anal Methods Chem. 2021 Feb