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Datasheet for 200-301-MU7

ModDetect® Phosphorothioate Clone PS01

Overview

Description:	ModDetect® Phosphorothioate Clone PS01 - 200-301-MU7
Item No.:	200-301-MU7
Size:	100 µg
Applications:	ELISA
Host Species:	Mouse

Product Details

Background:	Current studies focusing on RNA therapeutics use as potential drugs antisense oligonucleotides (ASO), short interfering RNA (siRNA), and micro RNA (miRNA). The choice of oligonucleotide chosen for a specific treatment is dependent on many factors. However, all oligo therapeutics must be modified in some manner, as unmodified nucleotides are difficult to identify and are highly susceptible to degradation by endogenous nucleases. Modifications can be created within the sugar-phosphate backbone (first generation), the ribose sugar (second and third generation), or at multiple locations (third generation). Antibodies to modified oligonucleotides are useful for basic immunoassays including, ELISA, IHC, and IF. In addition, several types of toxicology assays (immunogenicity assays), such as antibody-drug assays (ADA) or other pharmacokinetic (PK) and pharmacodynamic (PD) studies require oligonucleotide antibodies as analytical tools for general research and preclinical trial experiments. Antibodies to an oligonucleotide therapeutic allow researchers to assess cellular uptake, tissue distribution, and can serve as a positive control for immunogenicity studies.
Synonyms:	Phosphorothioate, PS, ASO, anti-sense oligonucleotide, siRNA, RNA therapeutic
Host Species:	Mouse
Clonality:	Monoclonal
Clone ID:	PS01
Format:	IgG1

Target Details

Immunogen Type:	Other

Immunogen:	ModDetect® Phosphorothioate Clone PS01 was prepared from cell culture supernatant produced by repeated immunizations with a proprietary oligo sequence.
Purity/Specificity:	ModDetect® Phosphorothioate Clone PS01 is directed against phosphorothioate modified backbone. This product was Protein A purified from monospecific supernatant.
Relevant Links:	• 200-301-MU7 SDS

Application Details

Tested Applications:	ELISA
Application Note:	ModDetect® Phosphorothioate Clone PS01 has been validated for use in ELISA. In antigen-down or immunometric ELISAs, the ModDetect® Phosphorothioate Clone PS01 preferentially detects phosphorothioate modified phosphate groups over native phosphodiester sugar-phosphate backbones. It is also likely to be functional in IF and IHC assays, however, its sensitivity, specificity, and conditions for optimal use in these assays has not yet been determined. All assays should be optimized by the user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:47,500

Formulation

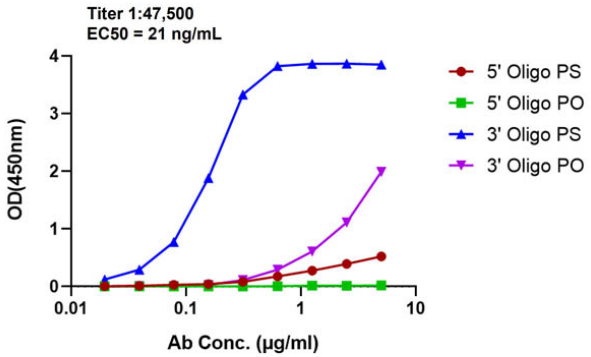
Physical State:	Liquid (sterile filtered)
Concentration:	1.118 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

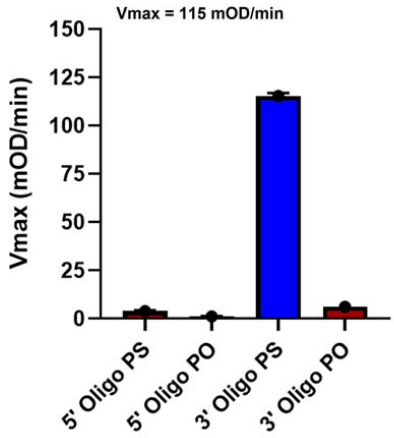
Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C or below prior to opening. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.
Expiration:	Expiration date is one (1) year from date of receipt.

Images

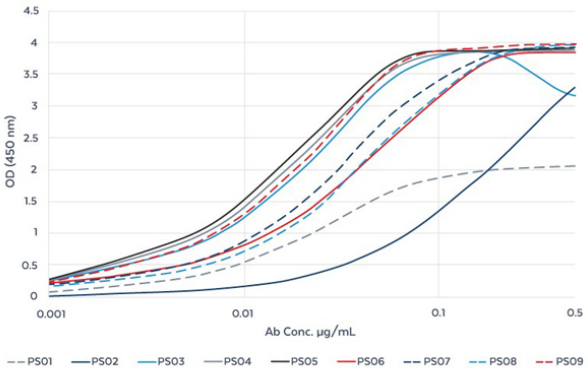
Vial
ModDetect® Phosphorothioate



ELISA
Endpoint ELISA results of Rockland's Anti-Phosphorothioate (PS) Monoclonal [1H5] Antibody. Each well was coated in duplicate with 0.5 µg/mL samples of 3' modified oligonucleotide PS-BSA [BLUE line], 3' modified oligonucleotide PO-BSA [PURPLE line], 5' modified oligonucleotide PS-BSA [RED line], and 5'modified oligonucleotide PO-BSA [GREEN line]. The working dilution for the 3'-modified oligonucleotide PS-BSA [BLUE line] antibody is 1:47,500. The starting dilution of antibody was 5 µg/mL, and the X-axis represents the Log10 of a 3- fold dilution. The analysis was done following a 4-parameter curve fit model. For this assay, the S/N ratio > 20 and the 3' Oligo PS EC50 = 21 ng/mL. The assay was performed using Rabbit Anti-Mouse IgG HRP conjugated secondary antibody (p/n 610-403-C46) at 1:8,000 and TMB substrate (p/n TMBE-1000).

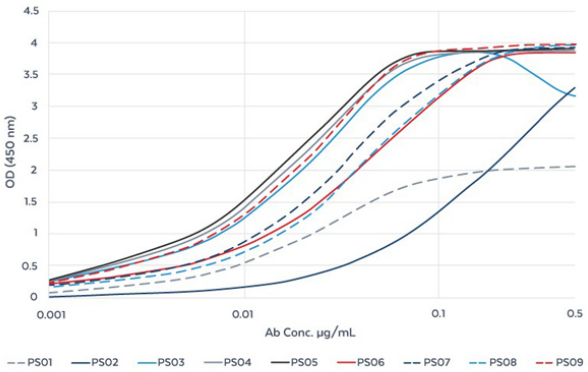


ELISA
Kinetic ELISA Vmax results of Rockland's Anti-Phosphorothioate (PS) Monoclonal [1H5] Antibody. Vmax of the 3' modified oligonucleotide PS-BSA is 115 mOD/min. Whereas the Vmax of the 5' Oligo PS is 3.9 mOD/min, 5' Oligo PO is 1.2 mOD/min, and 3' Oligo PO is 6.2 mOD/min.



ELISA

ELISA profiles of 9 ModDetect® Phosphorothioate Detection reagents reactive to control oligonucleotides. Fully PS-modified positive control ASOs were used to show differential sensitivity and specificity of ModDetect® Phosphorothioate clones selected for validation. Clones were not reactive with the same sequence synthesized with PO backbones (data not shown). Each well was coated in duplicate with 5 µg/mL of BSA-oligo conjugate. The starting dilution of antibody was 5 µg/mL and the X-axis represents the Log10 of a 3-fold dilution. This titration is a 4-parameter curve fit where the IC50 is defined as the titer of the antibody. Assay performed using 3% fish gel, Mouse IgG (gamma 1, 2a, 2b and 3 chain) Antibody Peroxidase Conjugated (p/n 610-403-C46) and TMB ELISA Peroxidase Substrate (p/n TMBE-1000).



ELISA

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