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Datasheet for 200-306-MV1

ModDetect® Phosphorothioate Biotin Clone PS05

Overview

Description:	ModDetect® Phosphorothioate Biotin Clone PS05 - 200-306-MV1
Item No.:	200-306-MV1
Size:	100 µg
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, Biotin Conjugated Anti-Phosphorothioate, Phosphorothioate BAC
Host Species:	Mouse
Conjugate:	Biotin
Clonality:	Monoclonal
Clone ID:	PS05
Format:	IgG2a

Target Details

Immunogen Type:	Other

Immunogen:	ModDetect® Phosphorothioate Biotin Clone PS05 was prepared from cell culture supernatant produced by repeated immunizations with a proprietary oligo sequence.
Purity/Specificity:	ModDetect® Phosphorothioate Biotin Clone PS05 is directed against phosphorothioate modified backbone. This product was Protein A purified from monospecific supernatant and conjugated to biotin.

Application Details

Application Note:	ModDetect® Phosphorothioate Biotin Clone PS05 has been validated for use in ELISA. In antigen-down or immunometric ELISAs, the ModDetect® Phosphorothioate Biotin Clone PS05 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.

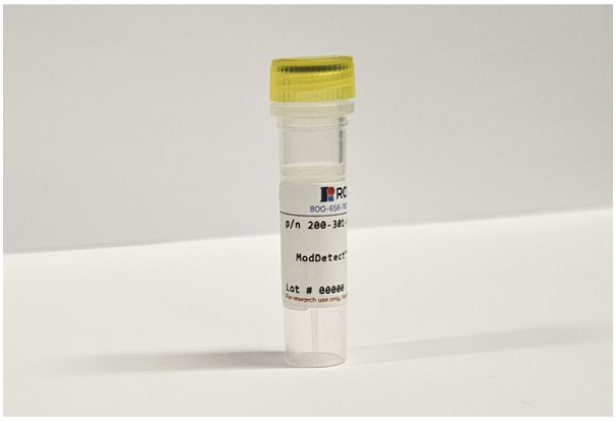
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1 mg/mL
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	10 mg/mL Bovine Serum Albumin (BSA) - Immunoglobulin and Protease free

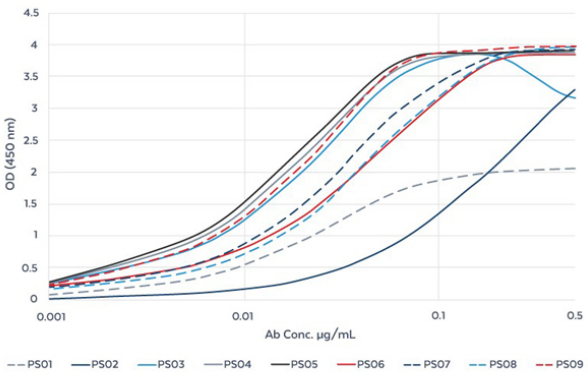
Shipping & Handling

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 Biotin Clone PS05



ELISA
ELISA profiles of 9 Unconjugated 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).

References

- Fial I et al. Characterizing Antibodies Targeting Antisense Oligonucleotide Phosphorothioate and 2'- O-Methoxyethyl Modifications for Intracellular Trafficking and Biodistribution Studies. *Nucleic Acid Ther.* (2025)

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