

Datasheet for 200-301-NF6**ModDetect® 2'-O-Methyl (2'OMe) Clone OME02****Overview**

Description:	ModDetect® 2'-O-Methyl (2'OMe) Clone OME02 - 200-301-NF6
Item No.:	200-301-NF6
Size:	100 µg
Applications:	ELISA, IF
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:	2'-O-Methyl, 2'OMe, ASO, anti-sense oligonucleotide, siRNA, RNA therapeutic, gapmer, aptamer
Host Species:	Mouse
Clonality:	Monoclonal
Clone ID:	OME02
Format:	IgG1

Target Details

Immunogen Type:	Other
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Immunogen:	ModDetect® 2'-O-Methyl (2'OMe) Clone OME02 was prepared from cell culture supernatant produced by repeated immunizations with a proprietary oligo sequence.
Purity/Specificity:	This Protein A purified ModDetect® 2'-O-Methyl (2'OMe) Clone OME02 is directed against 2'OMe modified ribose sugar. This product was Protein A purified from monospecific supernatant.

Application Details

Tested Applications:	ELISA, IF
Application Note:	ModDetect® 2'-O-Methyl (2'OMe) Clone OME02 has been validated for use in ELISA and immunofluorescence. In antigen-down or immunometric ELISAs, the ModDetect® 2'-O-Methyl (2'OMe) Clone OME02 preferentially detects 2'OMe modified ribose sugar groups over native deoxyribose or ribose sugars. 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:	User Optimized
IF:	1:100

Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by nanodrop at 205 nm
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

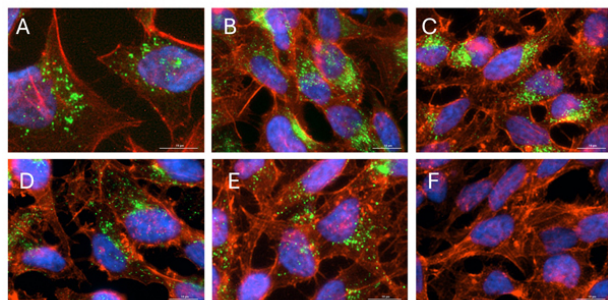
Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C or below prior to opening. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Vial

ModDetect® 2'-O-Methyl (2'OMe) Clone OME02



Immunofluorescence Microscopy

Rockland Immunochemicals ModDetect® 2'OMe antibodies detect FDA-approved Lumasiran, an siRNA used to treat Primary Hyperoxaluria type 1 (PH1). Briefly, HeLa cells were transfected with Lumasiran, fixed with 4% formaldehyde, and permeabilized with 0.3% Triton-X 100. After being blocked with 5% Goat Serum (p/n D204-00-0050), cells were incubated overnight at 4 °C with a panel of monoclonal antibodies separately, each reactive to the O-Methyl (OMe) chemical modification used to stabilize the siRNA.

Unconjugated primary antibodies were used at dilutions ranging from 1:50 to 1:500 which were subsequently detected using Anti-Mouse-DyLight 488 secondary antibody (p/n610-141-121) for 1-hour at room temperature to identify the intracellular localization of siRNA (green). Cells were then counterstained with Phalloidin for actin to visualize the cytoskeleton (red) and Hoechst for nuclei (blue). Panel images show individual clones as follows (A) OME01(p/n 200-301-NF5), (B) OME02(p/n 200-301-NF6), (C) OME03(p/n 200-301-NF7), (D) OME04(p/n 200-301-NF8), (E) OME05(p/n 200-301-NF9). No staining is observed for siRNA in a negative control (panel F) where HeLa cells were similarly treated with antibodies but not transfected with siRNA. Only clone OME01 shows detection of endogenous O-methylation under certain conditions of staining.

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