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Datasheet for KNA-300

ModDetect® 2'-O-Methyl (2'OMe) Panel

Overview

Description:	ModDetect® 2'-O-Methyl (2'OMe) Panel - KNA-300
Item No.:	KNA-300
Size:	1 Set

Product Details

Synonyms:	2'-O-Methyl, 2'OMe, ASO, anti-sense oligonucleotide
Detection Kit Type:	Combo Pack

Application Details

Application Note:	The set includes five unlabeled ModDetect® 2'-O-Methyl detection reagents [clone OME01 (200-301-NF5S), clone OME02 (200-301-NF6S), clone OME03 (200-301-NF7S), clone OME04 (200-301-NF8S), and clone OME05 (200-301-NF9S)] each supplied as a 25 µL aliquot at approximately 1.0 mg/mL, curated by binding characteristics, and three rabbit Anti-Mouse IgG reporter molecules labeled with peroxidase (610-403-C46S), 488 λ fluorophore (610-441-C46), and 649 λ fluorophore (610-443-C46) each supplied as 100µg. The different binding characteristics create opportunities to generate highly optimized immunoassays independent of oligonucleotide sequence, as opposed to spending significant efforts to optimize assays to underperforming reagents. Designed for use in various immunoassays, such as ELISA, IF, and IHC. NOTE: Panel detection reagents components are provided in a 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride buffer, pH 7.2. This buffer contains 0.01 % Sodium Azide as a preservative and 10 mg/mL carrier protein as a stabilizing reagent.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	User Optimized
IF:	User Optimized
IHC:	User Optimized

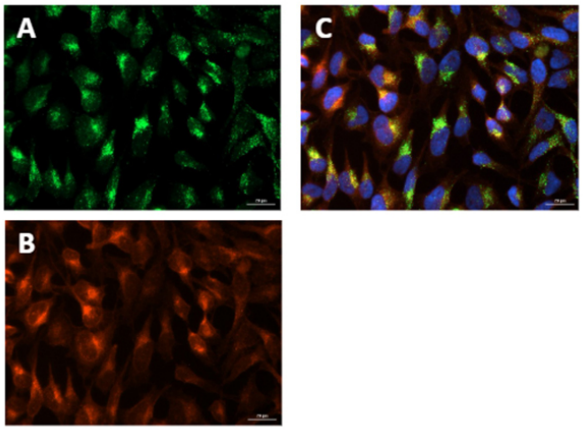
Formulation

Physical State:	Liquid and Lyophilized

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Please see product page for complete product description. Store five 2'-O-Methyl vials at -20°C or below prior to opening. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing. Store three reporter molecule vials at 4°C or -20°C prior to restoration. For extended storage aliquot contents and freeze at -20°C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4°C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

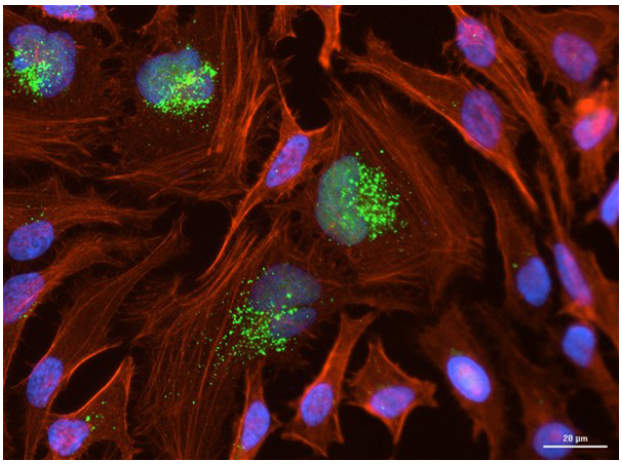
Images



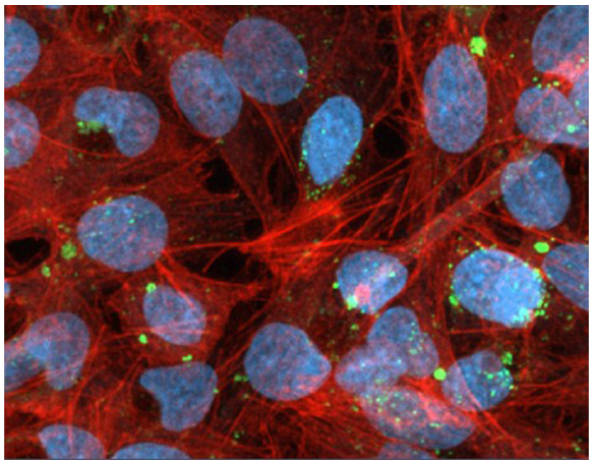
Immunofluorescence Microscopy
ModDetect® Anti-2'-OMe antibodies enable clear visualization of 2'-O-methyl–modified siRNA within cells, providing spatial insight into intracellular distribution. In HeLa cells, lumasiran siRNA was detected using clone OME03 (p/n 200-301-NF7), with cytoplasmic staining observed in a pattern consistent with endosomal sequestration (green). Co-staining withRAB9A and DAPI provided structural context, confirming cellular localization relative to late endosomes (red) and nuclei (blue). Sequential secondary antibody staining using Goat anti-Mouse DyLight™ 488 (p/n 610-141-121) and Goat anti-Rabbit Texas Red™ (p/n 611-1902). This data supports the use of ModDetect® for assessing cellular uptake and intracellular positioning of OMe-modified oligonucleotides. 40X magnification.

Kit Box
ModDetect™ 2'-O-Methyl (2'OMe) Panel

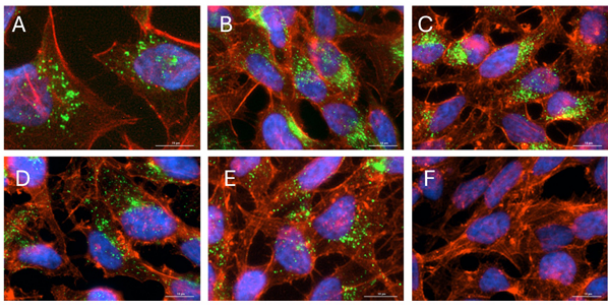
The set includes five unlabeled ModDetect® 2'-O-Methyl detection reagents [clone OME01, clone OME02, clone OME03, clone OME04, and clone OME05], curated by binding characteristics, and three reporter molecules labeled with peroxidase, 488 λ fluorophore, and 649 λ fluorophore.



Immunofluorescence Microscopy
ModDetect® Anti-2'-OMe antibodies enable clear visualization of 2'-O-methyl–modified siRNA within cells, providing spatial insight into intracellular distribution. In HeLa cells, lumasiran siRNA was detected using clone OME03 (p/n 200-301-NF7), with cytoplasmic staining observed in a pattern consistent with endosomal sequestration (green). Co-staining with phalloidin and DAPI provided structural context, confirming cellular localization relative to cytoskeletal (red) features and nuclei (blue). These data support the use of ModDetect™ for assessing cellular uptake and intracellular positioning of OMe-modified oligonucleotides. 40X.



Immunofluorescence Microscopy
ModDetect® Anti-2'-OMe antibodies enable visualization of 2'-O-methyl–modified siRNA in physiologically relevant cell models. In Hep G2 cells, lumasiran siRNA was detected using clone OME03 (p/n 200-301-NF7), with punctate staining observed within the cytoplasmic consistent with entrapment (green). Co-staining with phalloidin and DAPI provided structural context, confirming localization relative to the actin cytoskeleton (red) and nuclei (blue). These results demonstrate the utility of ModDetect® for evaluating intracellular distribution of OMe-modified oligonucleotides in human derived liver cancer cells (hepatoblastoma). 20X



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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