

MONOCLONAL ANTIBODIES (MAbs) TO CANCER ANTIGEN CA 19-9

CA19-9, also known as carbohydrate antigen 19-9, cancer antigen 19-9 or sialylated Lewis (a) antigen, is a mucin glycoprotein identified in patients with digestive tract or intra-abdominal carcinomas such as pancreatic, colorectal, stomach or bile duct cancer. First described in 1979 as a tumor associated antigen by Koprowski et al ⁽¹⁾, CA19-9 has been studied widely for diagnostic, prognostic and predictive clinical significance in pancreatic cancer.

In the U.S., pancreatic cancer is the 3rd and 4th leading cause of cancer related deaths in women and men respectively. Due to the difficulty in diagnosing pancreatic cancer in the early stages, the rate of incidence and mortality are about equal:

U.S. new cases 2010:	43,140
U.S. deaths 2010:	36,800 ⁽²⁾

At the time of diagnosis, ~20% of patients are considered for surgery and only about half will undergo successful resection. For these patients, the 5-year survival rate is 4% - 26% after participating in a regimen of chemotherapy or chemoradiotherapy. There is no curative therapy for the other 80% with advanced or metastatic disease. Survival rate for these patients is less than 12 months.

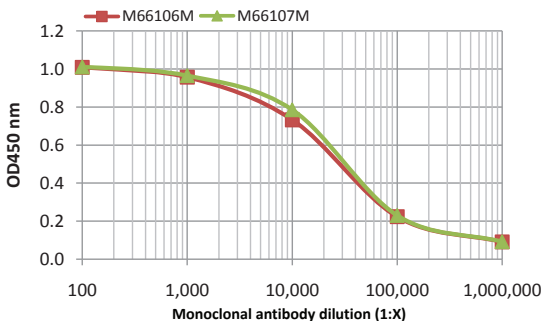
CA 19-9 is the most widely used and the best validated marker for monitoring the progression of pancreatic cancer.

CA19-9 is the sialysiated Lewis (Le)^a blood group antigen. Approximately 5% of the population lacks this antigen and will test negative for CA19-9 due to their inability to synthesize CA19-9.⁽¹⁾ CA19-9 has limited use in the early diagnosis of cancer.

NOW AVAILABLE AT MERIDIAN LIFE SCIENCE, INC., MAbs TO CA19-9:

CATALOG #	CLONE #	Host Animal: Mouse Isotype: IgG1
M66106M	106-3A3	Source: Ascites Format: Purified, Liquid
M66107M	106-3E11	Immunogen: Human colorectal adenocarcinoma cell-line COLO205
M66108M	106-2F6	Purification: >90% pure (SDS-PAGE), Protein A chromatography Product is 0.2 µm filtered
		Concentration: Lot specific (OD280 nm, E ^{0.1%} = 1.4)
		Buffer: 10mM Sodium phosphate, 150mM Sodium chloride, pH 7.4 ± 0.2
		Preservative: 0.05% Sodium azide

MAbs to CA19-9 Titration Curve



Testing in Indirect ELISA:

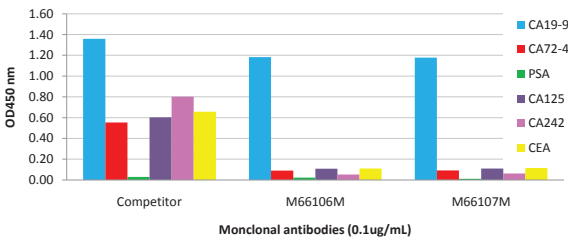
Antigen: CA19-9 Antigen (Catalog #A97185H) coated at 30 Units per well.

Antibodies: Dilution series of M66106M and M66107M followed by Goat anti-Mouse IgG Fc:HRP conjugate and TMB substrate.

CROSS REACTIVITY TESTING:

Cross reactivity testing was performed side by side in Indirect ELISA with a popular commercially used MAb to CA19-9. MLS MAbs to CA19-9 **did not cross react** with CA72-4, PSA, CA125, CA242, and CEA while the competitor showed cross reactivity with 4 of the 5 cancer antigens tested!

MAbs to CA19-9: Cross-reactivity vs. other Cancer Markers



Testing in Indirect ELISA:

Antigen: Purified tumor marker antigens were coated on the microtiter wells

Antibodies: MAbs were incubated in the wells at 0.1ug/mL, followed by Goat anti-Mouse IgG Fc: HRP conjugate and TMB substrate.

APPLICATION:

MLS MAbs to CA19-9 are suitable for use in ELISA (M66106M and M66107M) or sandwich ELISA (M66108M).

RECOMMENDED ANTIBODY PAIRS:

CAPTURE	DETECTION
M66106M	M66108M
M66107M	M66106M
M66108M	M66106M
M66107M	M66108M



⁽¹⁾ Koprowski, H., et al (1979). "Colorectal carcinoma-specific antigen: Detection by means of monoclonal antibodies". Proc.Natl. Acad. Sci. USA 76 (3): 1438-1442.

⁽²⁾ www.cancer.gov

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