

# PRODUCT DATA SHEET

## ANTI-HUMAN CEACAM16 MONOCLONAL ANTIBODY

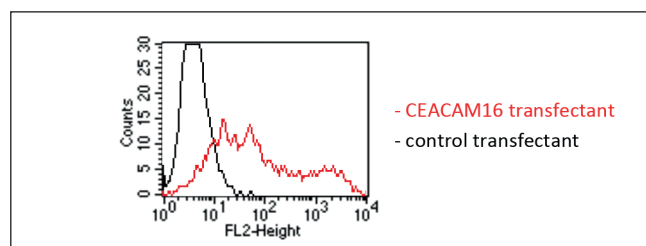
### PRODUCT INFORMATION

<b>Catalog Number:</b>	GM-0518	<b>Clone:</b>	SU-9D5
<b>Description:</b>	purified monoclonal mouse antibody	<b>Specificity:</b>	anti-human CEACAM16
<b>Isotype:</b>	IgG2b/kappa	<b>Purification:</b>	Protein G
<b>Storage:</b>	short term: 2°C – 8°C; long term: -20°C (avoid repeated freezing and thawing)	<b>Buffer:</b>	phosphate buffered saline, pH 7.2
<b>Immunogen:</b>	genetic immunization with cDNA encoding human CEACAM16	<b>Selection:</b>	based on recognition of the complete native protein expressed on transfected mammalian cells

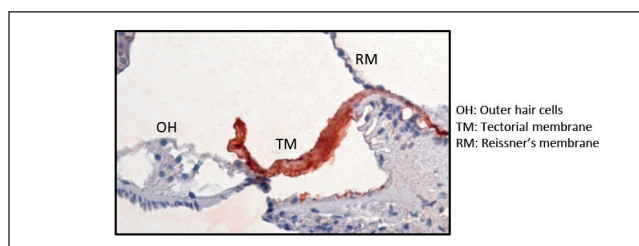
### WORKING DILUTIONS

<b>Flow cytometry:</b>	1.2 µg/10 <sup>6</sup> cells	<b>Immunohistology:</b>	4 µg/ml
<b>CELISA:</b>	1:200 – 1:400	For each application a titration should be performed to determine the optimal concentration.	

### SPECIFICITY TESTING BY FLOW CYTOMETRY AND IMMUNOHISTOLOGICAL STAINING



**Fig. 1:** FACS analysis of BOSC23 cells using SU-9D5 Cat.# GM-0518. BOSC23 cells were transiently transfected with an expression vector encoding either CEACAM16 (red curve) or an irrelevant protein (control transfected). Binding of SU-9D5 was detected with a PE- conjugated secondary antibody. A positive signal was obtained only with CEACAM16 transfected cells.



**Fig. 2:** Immunohistological staining using SU-9D5 Cat.# GM-0518 on paraffin sections of cochlea tissue of an adult transgenic mouse with a human CEACAM16 gene (Ceacam16<sup>+/+</sup> mouse cochlea). Binding of biotinylated SU-9D5 was detected with horseradish peroxidase-coupled streptavidin and stained with 3-amino-9-ethylcarbazole.

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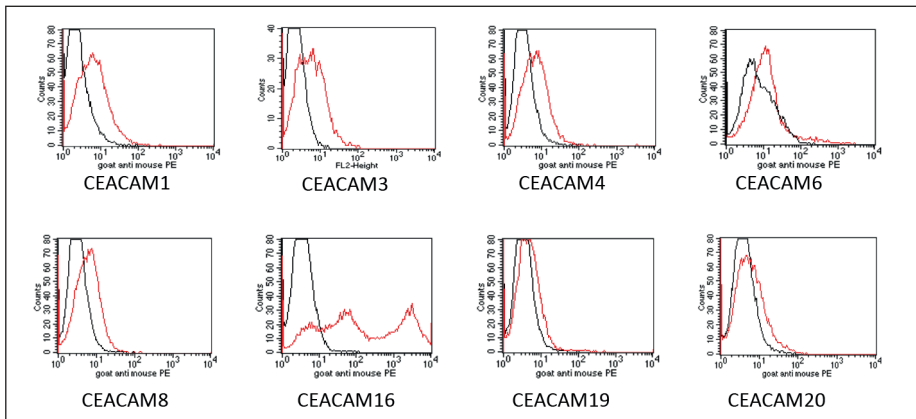
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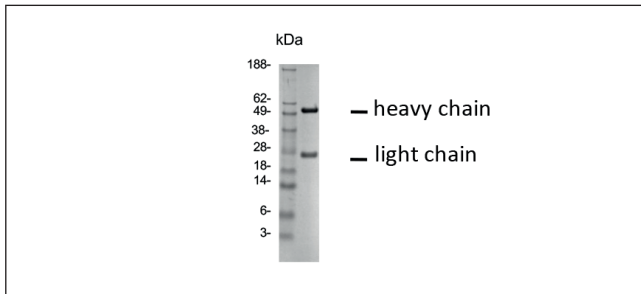
## ANTIBODY CROSS-REACTIVITY WITH MEMBERS OF THE CEA FAMILY



**Fig. 3:** BOSC23 cells were transiently transfected with expression vectors containing either the cDNA of CEACAM1, CEACAM3, 4, 6, 8, 19, or 20. Expression of the constructs was tested with monoclonal antibodies known to recognize the corresponding proteins (data not shown). An irrelevant monoclonal antibody served as a negative control (black curves). For specificity testing, protein G-purified SU-9D5 was tested on all CEACAM transfectants. A positive signal was obtained only with CEACAM16 transfected cells (red curve).

## SDS-PAGE ANALYSIS OF SU-9D5

The antibody was purified by protein G affinity chromatography from cell culture supernatants and verified by SDS-Page (Fig. 4).



**Fig. 4:** SDS-PAGE analysis of purified SU-9D5 monoclonal antibody. Lane 1: molecular weight marker, Lane 2: 2 µg of purified SU-9D5 antibody. Proteins were separated by SDS-PAGE and stained with RAPID Stain™ Reagent.

## BACKGROUND

CEA-related cell adhesion molecule 16 (CEACAM16) belongs to the carcinoembryonic antigen (CEA) gene family which are widely expressed (1). The mammal-specific member CEACAM16 is well conserved and specifically expressed in the inner ear (2). It is a structural component of the tectorial membrane and the expression is necessary for hearing over an extended frequency range (3).

## REFERENCES

1. **Hammarström S (1999).** The carcinoembryonic antigen (CEA) family: structures, suggested functions and expression in normal and malignant tissues. *Semin. Cancer Biol.* 9, pp. 67-81.
2. **Zimmermann W (2002).** Carcinoembryonic antigen. In *Wiley Encyclopedia of Molecular Medicine* (T. Creighton, ed.), John Wiley & Sons Inc., New York, USA, pp. 459-462.
3. **Kammerer R, Rüttiger L, Riesenberger R, Schäuble C, Krupar R, Kamp A, Sunami K, Eisenried A, Hennenberg M, Grunert F, Bress A, Battaglia S, Schrewe H, Knipper M, Schneider MR, Zimmermann W (2012).** Loss of mammal-specific tectorial membrane component carcinoembryonic antigen cell adhesion molecule 16 (CEACAM16) leads to hearing impairment at low and high frequencies. *Journal of biological chemistry* 287,26, pp. 21584-21598

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