

DESCRIPTION

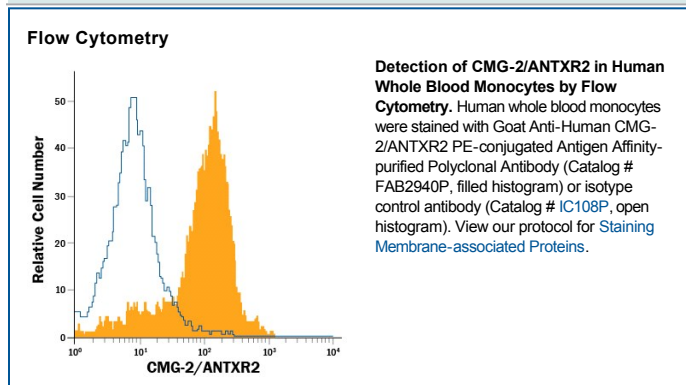
Species Reactivity	Human
Specificity	Detects human CMG-2/ANTXR2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 20% cross-reactivity with recombinant mouse CMG-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CMG-2/ANTXR2 isoform 1 Gln34-Asn317 Accession # P58335
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	10 μ L/10 ⁶ cells	See Below

DATA



PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Capillary Morphogenesis Gene-2 (CMG-2) is a widely expressed Anthrax Toxin Receptor (ATR) family protein (1-3). CMG-2 is a 55 kDa type I transmembrane (TM) protein that contains a 33 amino acid (aa) signal sequence, a 284 aa extracellular domain (ECD), a 24 aa TM segment, and a 147 aa cytoplasmic domain. There are three additional isoforms. Isoform 4 shows a 12 aa insertion in the cytoplasmic region, isoform 2 shows a 103 aa deletion in the ECD, and isoform 3 is a truncated, 20 kDa, 289 aa soluble form. The main functional domain of CMG-2 is an extracellular integrin-like von Willebrand factor type A (VWA) domain with a metal ion dependent adhesion site (MIDAS). This domain adheres selectively to collagen type IV and laminin (1-5). CMG-2 isoform 2 is induced in HUVEC as they undergo capillary formation in collagen matrices *in vitro* (3). CMG-2 is mutated in juvenile hyaline fibromatosis and infantile systemic hyalinosis disorders, and several of these mutations result in loss of laminin binding (6). CMG-2 and the related protein ATR/TEM8 serve as receptors for the protective antigen (PA) of *Bacillus Anthracis* (1, 2). After binding the VWA domain, PA undergoes furin-type cleavage, forms a heptameric receptor/PA pre-pore, and binds LF or EF toxin subunits (5, 7, 8). Transport to low pH endosomes, which requires CMG-2 ubiquitination and interaction with the LDL receptor related protein LRP6 (9, 10), allows PA pore formation and release of toxin to the cytoplasm (10, 11). Soluble CMG-2 VWA domain acts as a dummy receptor that can protect cultured cells from anthrax intoxication (2). Within the extracellular region, human CMG-2 shares 84%, 81%, 89% and 93% amino acid sequence identity with mouse, rat, bovine, and canine CMG-2, respectively. CMG-2 VWA domain also shares 60% aa sequence identity with ATR/TEM8.

References:

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