Anti-DM1 Antibody [A4G3]

HA600014

Product Type:	Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Species independent
Applications:	ELISA
Clone number:	A4G3

Description: Mertansine, also called DM1 (and in some of its forms emtansine), is a thiol-containing maytansinoid that for therapeutic purposes is attached to a monoclonal antibody through reaction of the thiol group with a linker structure to create an antibody-drug conjugate (ADC). Mertansine is a tubulin inhibitor, meaning that it inhibits the assembly of microtubules by binding to tubulin (at the rhizoxin binding site). The monoclonal antibody binds specifically to a structure (usually a protein) occurring in a tumour, thus directing mertansine into this tumour. This concept is called targeted therapy. Trastuzumab emtansine also known as ado-trastuzumab emtansine and sold under the trade name Kadcyla, is an antibody-drug conjugate consisting of the humanized monoclonal antibody trastuzumab (Herceptin) covalently linked to the cytotoxic agent DM1. Trastuzumab alone stops growth of cancer cells by binding to the HER2 receptor, whereas trastuzumab emtansine undergoes receptor-mediated internalization into cells, is catabolized in lysosomes where DM1-containing catabolites are released and subsequently bind tubulin to cause mitotic arrest and cell death. Trastuzumab binding to HER2 prevents homodimerization or heterodimerization (HER2/HER3) of the receptor, ultimately inhibiting the activation of MAPK and PI3K/AKT cellular signalling pathways. Because the monoclonal antibody targets HER2, and HER2 is only over-expressed in cancer cells, the conjugate delivers the cytotoxic agent DM1 specifically to tumor cells.

Immunogen: DM1 coupled with OVA.

Recommended Dilutions:

ELISA	1:5,000-1:20,000

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein G affinity purified.

Images

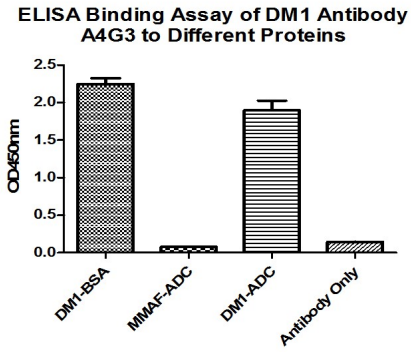

Fig1: The binding activity of HA600014 with DM1-BSA, MMAF-ADC, DM1-ADC and antibody without conjugaated with DM1. Immobilized protein at 1 μg/ml overnight at 4℃. Then blocked with 1% BSA for 1 hour at 37℃, and incubated with the primary antibody (HA600014) for 1 hour at 25℃.

Mouse anti-DM1 mAb (HA600014) can bind to DM1 or DM1-ADC but not naked Ab or MMAF-ADC.

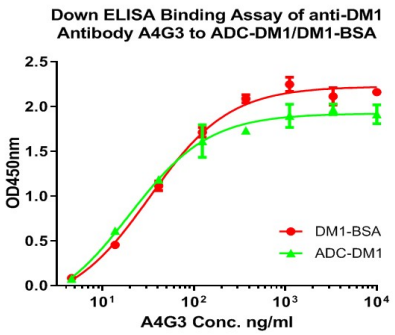

Fig2: Down ELISA Binding Assay of anti-DM1 Antibody A4G3 (HA600014) to ADC-DM1 and DM1-BSA. The mouse mAb works fine with ELISA assay for measuring DM1 derivative ADC.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Teicher BA, Doroshow JH (November 2012). "The promise of antibody-drug conjugates". N. Engl. J. Med. 367 (19): 1847–8. doi:10.1056/NEJMe1211736. PMID 23134386.

2. Verma S, Miles D, Gianni L, et al. (November 2012). "Trastuzumab emtansine for HER2-positive advanced breast cancer". N. Engl. J. Med. 367 (19): 1783–91. doi:10.1056/NEJMoa1209124. PMC 5125250. PMID 23020162.