

## Anti-DR4 [HGS-ETR1 (Mapatumumab; TRM-1)] Bulk Size Ab04097-3.3-BT

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors.

This is a reformatted mouse IgG2b Fc Silent™ antibody, based on the original mouse IgG1 format, created for improved compatibility with existing reagents, assays and techniques.

**Isotype and Format:** Mouse IgG2b, [Fc Silent™](#), Lambda

**Clone Number:** HGS-ETR1 (Mapatumumab; TRM-1)

**Alternative Name(s) of Target:** CD261; TR4; TNFRSF10A; APO2; TRAILR1; Tumor necrosis factor receptor superfamily member 10A; Death receptor 4; TNF-related apoptosis-inducing ligand receptor 1; T1014A04

**UniProt Accession Number of Target Protein:** O00220

**Published Application(s):** agonist, functional assay, in vivo, ELISA

**Published Species Reactivity:** Human

**Immunogen:** The original antibody was isolated from a human scFv library by panning against human TR4 fusion protein. Later on the scFv version of this antibody was converted to human IgG1 version for carrying out further studies.

**Specificity:** This antibody binds human CD261 (TR4 or TRAILR1 or TNFRSF10A). This protein acts as a receptor for the cytotoxic ligand TNFSF10/TRAIL and transduces cell death signal and induces cell apoptosis.

**Application Notes:** The binding specificity of this antibody to human TR4 (CD126) fusion protein was determined using ELISA. This antibody does not cross react with other proteins like TR7, TR5, TR10 and BlyS. It was reported that the scFv version of the antibody binds human TR4 fusion protein with a binding affinity of  $K_d = 4.68 \times 10^{-10}$  nM. The ability of this antibody to induce apoptosis of TR4 expressing cells, alone or in combination with chemotherapeutic or cross-linking agents was studied in TR4 expressing cell lines, SW480 and HeLa. The IgG1 format of this antibody induces apoptosis of SW480 cells in the presence of a cross linking agent, but in the absence of cycloheximide. In the presence of cycloheximide, but with or without a crosslinking reagent, the IgG1 antibody induces apoptosis of SW480 and HeLa cells. It was also reported that when administered in vivo with Topotecan, this antibody was capable of retarding the growth of tumor cells in nude mice (US7064189). This antibody reduced the viability of multiple types of tumor cells in vitro. Treatment of cell lines in vitro with HGS-ETR1 enhanced the cytotoxicity of chemotherapeutic

agents (camptothecin, cisplatin, carboplatin, or 5-fluorouracil) even in tumor cell lines that were not sensitive to HGS-ETR1 alone. In vivo administration of HGS-ETR1 resulted in rapid tumor regression or repression of tumor growth in pre-established colon, non-small-cell lung, and renal tumors in xenograft models. Combination of HGS-ETR1 with chemotherapeutic agents (topotecan, 5-fluorouracil, and irinotecan) in three independent colon cancer xenograft models resulted in an enhanced antitumor efficacy compared to either agent alone (PMID: 15846298). In a phase 1 clinical trial Mapatumumab was found to be well tolerated in cancer patients with advanced solid tumors (PMID: 18519776). Phase 2 clinical studies reported that this antibody targets and activates TRAIL-R1 in patients with refractory colorectal cancer and advanced non-small cell lung cancer (NSCLC) (PMID: 20068564; 18255187). Two phase 2 studies evaluated the combination of this antibody with paclitaxel and carboplatin (study 1) and gemcitabine and cisplatin (study 2) for treatment of NSCLC and solid tumors respectively (PMID: 24560012; 19690193).

**Antibody First Published in:** Pukac et al. HGS-ETR1, a fully human TRAIL-receptor 1 monoclonal antibody, induces cell death in multiple tumor types in vitro and in vivo. Br J Cancer. 2005 Apr 25;92(8):1430-41. [PMID:15846298](#)

**Note on publication:** Describes the generation of an agonistic antibody against human TRAIL receptor 1.

## Product Form

**Size:** 1 mg Purified antibody in bulk size.

**Purification:** Protein A affinity purified

**Supplied In:** PBS only.

**Storage Recommendation:** Store at 4°C for up to 3 months. Note, this antibody is provided without added preservatives, it is therefore recommended this antibody be handled under sterile conditions. For longer storage, aliquot and store at -20°C.

**Concentration:** 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.