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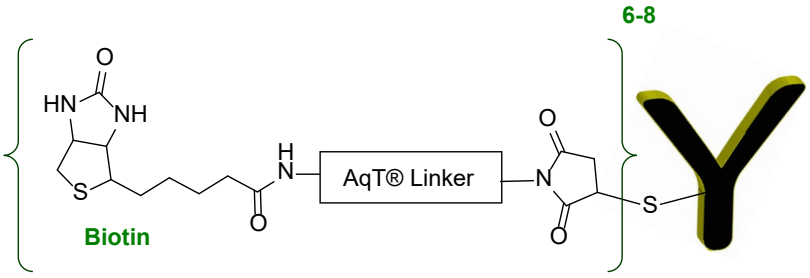
AqT® Biotin Reduced Thiol-Labeled Trastuzumab (Anti-Her2 mAb)

Lyophilized Powder
100 µg or 500 µg of conjugate per tube, lyophilized from a citrate buffer containing a sugar-based stabilizer.
≥95% monomeric by SEC HPLC



Product Number:
CM86169

Product Description

Biotin is highly hydrophobic and only sparingly soluble in water. These properties make it difficult to achieve high biotin loading on a biopolymer. Most conventional biotinylation reagents require significant amounts of organic solvent, which can promote protein aggregation, precipitation, and loss of activity during labeling. CellMosaic's proprietary AqT® linker converts biotin into a highly water-soluble reagent, enabling high biotin loading with minimal or no organic solvent.

Trastuzumab is a humanized IgG1κ monoclonal antibody that binds to the extracellular domain of human epidermal growth factor receptor 2 (HER2/ErbB2). Trastuzumab is the antibody component of HER2-targeted antibody–drug conjugates such as ado-trastuzumab emtansine and trastuzumab deruxtecan. Biotinylated trastuzumab can be used as a research reagent for HER2 studies and diagnostic assay development. Potential biotin–avidin-based applications include ELISA, flow cytometry, immunohistochemistry (IHC), immunocytochemistry (ICC), immunoprecipitation (IP), pull-down assays, biosensor and surface-immobilization applications, cell isolation, and magnetic separation.

Unlike conventional biotin NHS ester chemistry, which randomly labels surface lysine residues, this AqT® biotinylated trastuzumab uses CellMosaic's proprietary super-hydrophilic AqT® linker to provide site-specific biotinylation at reduced Fc-region disulfide bonds. This site-specific labeling approach is designed to minimize disruption of antigen binding and increase streptavidin-mediated signals. AqT® biotinylated trastuzumab contains an average of 6–8 biotin molecules per antibody, providing enhanced signal amplification, improved assay sensitivity, and greater signal intensity across a range of applications.

The product is supplied in one vial containing either 100 µg (Cat. No. CM86169-100UG) or 500 µg (Cat. No. CM86169-500UG). For bulk orders, please contact us for a quote.

Product Information

- **Chemical Name**: AqT® Biotin Reduced Thiol-Labeled Trastuzumab (Anti-Her2 mAb)
- **Molecular Weight:** Approximately 152 kDa
- **Antibody Information:** Humanized monoclonal IgG1k antibody targeting human HER2/ErbB2
- **Physical Appearance:** White to off-white lyophilized powder
- **Storage Temperature:** -20 °C or below
- **Purity:** ≥95% monomeric by SEC-HPLC (refer COA of each lot for actual value)
- **Average Biotin Loading:** 6–8 biotin molecules per trastuzumab molecule (refer COA of each lot for actual value)

Key Features

- Lyophilized powder that is ready for use after reconstitution with water; no additional buffer is required
- High biotin loading, with an average of 6–8 biotin molecules per trastuzumab molecule
- Protein content accurately determined by UV/HPLC analysis; biotin incorporation levels determined by biotin assay
- **Advanced AqT® linker technology**: Utilizes CellMosaic's proprietary, super-hydrophilic, water-soluble, charge-neutral AqT® linker to enhance aqueous solubility and minimize aggregation

Reconstitution

Reconstitute with the desired volume of sterile water. For reference, reconstituting one 100 µg tube with 100 µL yields a product concentration of 1 mg/mL. The resulting solution is citrate-buffered at approximately pH 6.4.

Applications for HER2

- HER2 detection and quantification
- HER2 binding and competition assays
- Selection and capture of HER2-positive cells
- Affinity purification and pull-down assays for HER2 and associated protein complexes
- HER2 receptor internalization studies
- Targeted imaging of HER2-positive cells and tumors
- HER2-targeted delivery research
- Assay development and quality control for HER2-expressing cell lines, biosensors, diagnostic assay-development platforms, and HER2-targeted formulations

Storage/Stability

- Store the lyophilized product at or below -20 °C
- Shelf life before reconstitution: One year from the date of receipt when stored as directed
  After reconstitution, store at 2-8 °C and use within 24 hours for best performance

Figure 1. Representative size-exclusion HPLC (SEC-HPLC) profiles of trastuzumab before labeling (blue trace) and AqT® Biotin Trastuzumab after labeling (red trace; lot no. S702.S11.0701F; DOL: 6.9) in citrate buffer, demonstrating ≥99% monomeric purity with no detectable aggregates.

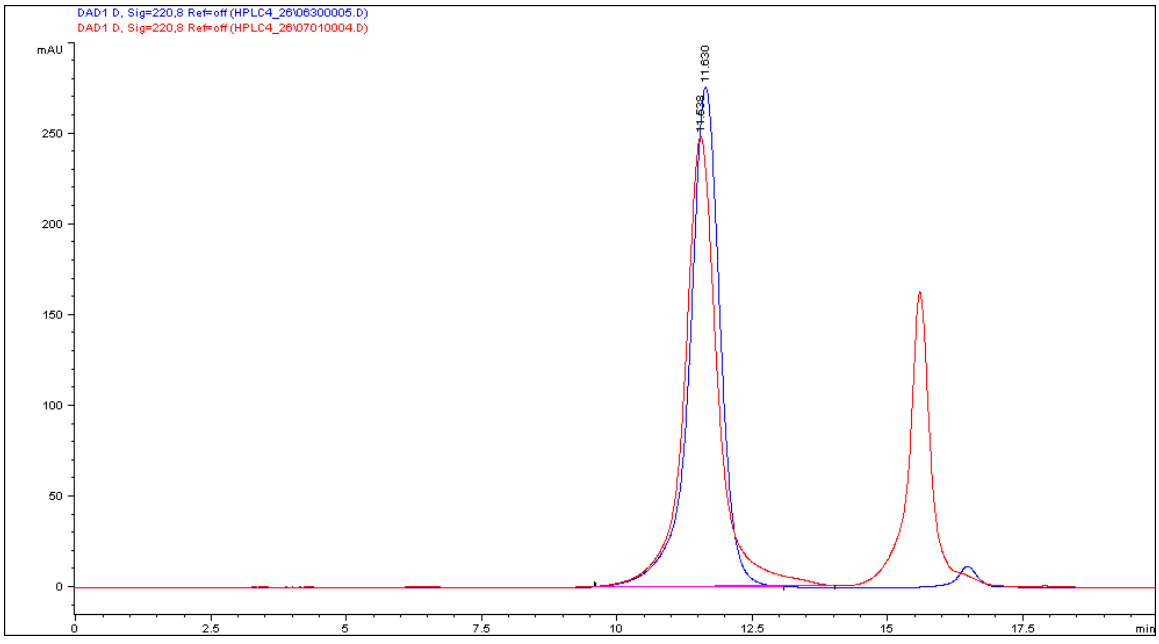
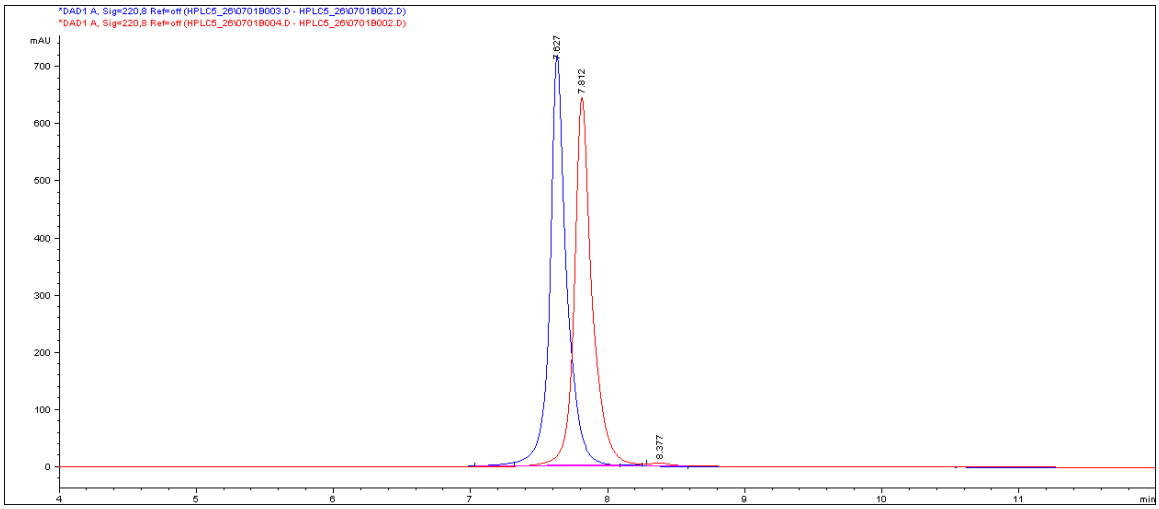


Figure 2. Representative hydrophobic interaction chromatography (HIC-HPLC) profiles of trastuzumab before labeling (blue trace) and AqT® Biotin Trastuzumab after labeling (red trace; lot no. S702.S11.0701F; DOL: 6.9) in citrate buffer, showing only a slight hydrophobic shift and a high degree of antibody homogeneity.



Important Notes

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