

PRODUCT INFORMATION

HER2/ErbB2 Chimeric Monoclonal Antibody (Clone 4D5-8 (Trastuzumab)) Item No. 37168

Overview and Properties

Contents:	This vial contains 200 µg of protein A-affinity purified monoclonal antibody.
Synonyms:	CD340, Erb-B2 Receptor Tyrosine Kinase 2, Human Epidermal Growth Factor Receptor 2, Neu, Receptor Tyrosine-Protein Kinase ErbB-2
Immunogen:	Recombinant human HER2/ErbB2
Cross Reactivity:	(+) HER2
Species Reactivity:	(+) Human
Uniprot No.:	P04626
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 0.02% ProClin™ 300
Concentration:	1 mg/ml
Clone:	4D5-8 (trastuzumab)
Host:	Chimeric Monoclonal Antibody
Isotype:	IgG1κ
Applications:	ELISA, Flow Cytometry (FC), and Immunohistochemistry (IHC), working concentration/dilution should be determined empirically.

Description

Human epidermal growth factor receptor 2 (HER2), also known as ErbB2 and Neu, is a cell surface receptor and member of the EGF family of receptor tyrosine kinases that is encoded by *ERBB2* in humans.¹ It is a transmembrane receptor composed of a C-terminal intracellular tyrosine kinase domain, a transmembrane lipophilic segment, and an N-terminal extracellular domain, that is expressed at low levels in various epithelial tissues, as well as breast, lung, kidney, ovary, placenta, and the gastrointestinal tract.² Unlike other EGF receptors, HER2 does not bind ligands or undergo a conformational change in its extracellular domain for activation. HER2 is activated upon heterodimerization with HER3 or HER4, which stabilizes ligand binding to HER3 and HER4, or homodimerization and enhances kinase-mediated activation of the MAPK and PI3K cellular signaling pathways.^{1,2} Truncated forms of HER2 with constitutive oncogenic activity can be generated by proteolytic cleavage of the extracellular domain.² *ERBB2* is overexpressed in 12 to 15% of breast cancer tumors and is associated with accelerated growth rate, increased rate of recurrence, and poor overall survival.² Various mutations in *ERBB2*, with or without gene amplification, have been found in prostate, colon, bladder, breast, lung, and colorectal tumors, as well as metastatic cutaneous squamous small cell carcinomas.^{3,4} Cayman's HER2/ErbB2 Chimeric Monoclonal Antibody (Clone 4D5-8 (Trastuzumab)) was produced recombinantly from the original humanized 4D5-8 antibody and can be used for ELISA, flow cytometry (FC), and immunohistochemistry (IHC) applications. The 4D5-8 antibody was generated by fusing human IgG1 constant domains to the antigen-binding domain of a mouse anti-HER2/ErbB2 monoclonal antibody.⁵

References

1. Gerson, J.N., Skiara, S., Denlinger, C.S., *et al.* *Expert Opin. Investig. Drugs* **26**(5), 531-540 (2017).
2. Perrier, A., Gligorov, J., Lefèvre, G., *et al.* *Lab. Invest.* **98**(6), 696-707 (2018).
3. Connell, C.M. and Doherty, G.J. *ESMO Open* **2**(5), e000279 (2017).
4. Bose, R., Kavuri, S.M., Searleman, A.C., *et al.* *Cancer Discov.* **3**(2), 224-237 (2013).
5. Carter, P., Presta, L., Gorman, C.M., *et al.* *Proc. Natl. Acad. Sci. USA* **89**(10), 4285-4289 (1992).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/07/2024

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM