



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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### Zuschläge

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- Trockeneiszuschlag
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# PRODUCT INFORMATION



## EGFR Extracellular Domain (human, recombinant)

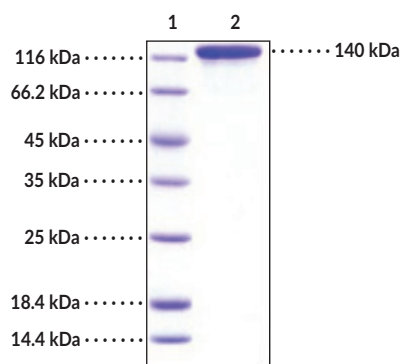
Item No. 32026

### Overview and Properties

<b>Synonyms:</b>	Epidermal Growth Factor Receptor, ErbB-1, HER1
<b>Source:</b>	Active recombinant C-terminal human IgG1 Fc-tagged EGFR expressed in HEK293 cells
<b>Amino Acids:</b>	25-645
<b>Molecular Weight:</b>	95 kDa
<b>Storage:</b>	-80°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Purity:</b>	≥97% estimated by SDS-PAGE
<b>Supplied in:</b>	Lyophilized from sterile PBS, pH 7.4
<b>Endotoxin Testing:</b>	< 1.0 EU/μg, determined by the LAL endotoxin assay
<b>Bioactivity:</b>	See figures for details

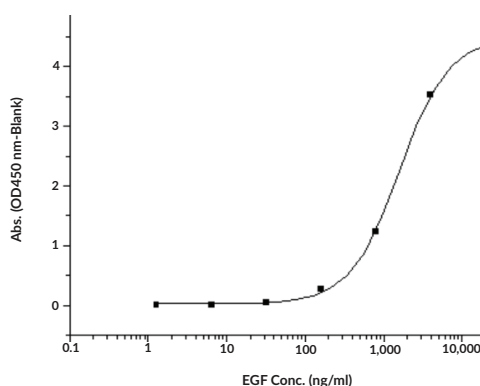
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Images



Lane 1: MW Markers  
Lane 2: EGFR Extracellular Domain

**SDS-PAGE Analysis of EGFR Extracellular Domain.** This protein has a calculated molecular weight of 95 kDa. It has an apparent molecular weight of approximately 130 to 140 kDa in SDS-PAGE under reducing conditions due to glycosylation.



**EGFR Extracellular Domain activity in ELISA.** EGFR Extracellular Domain activity is measured by its binding ability in a functional ELISA. Immobilized recombinant human EGF at 10 μg/ml (100 μl/well) can bind human EGFR with a linear range of 0.64-400 ng/ml.

**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.

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# PRODUCT INFORMATION



## Description

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Epidermal growth factor receptor (EGFR), also known as HER1 and ERBB1, is a cell surface receptor and member of the EGF family of receptor tyrosine kinases with roles in cell proliferation, differentiation, and survival.<sup>1,2</sup> It is a 170 kDa transmembrane receptor composed of an intracellular tyrosine kinase domain, a transmembrane lipophilic segment, and an extracellular domain that is expressed in epithelial, mesenchymal, and neuronal tissues.<sup>1-3</sup> Under unstimulated conditions, EGFR is an auto-inhibited monomer in the plasma membrane.<sup>1</sup> Upon canonical ligand binding, EGFR undergoes homodimerization or heterodimerization with HER2, HER3, or HER4, which induces a conformational change in the cytoplasmic domain that facilitates autophosphorylation and intracellular signaling. EGFR inhibits autophagy under nutrient-rich growth conditions and, conversely, induces autophagy under serum-starved conditions by interacting with the autophagy inhibitor Rubicon to induce its dissociation from Beclin-1. Overexpression of EGFR is found in multiple solid tumors, including renal, breast, ovarian, and head and neck cancer, as well as non-small cell lung cancer (NSCLC).<sup>2</sup> EGFR<sup>L858R</sup> is associated with increased susceptibility to tyrosine kinase inhibition and cell death, while EGFR<sup>T790M</sup> is associated with kinase inhibitor resistance in NSCLC.<sup>4</sup> Inhibition of EGFR reduces angiotensin II-induced cardiac hypertrophy in mice.<sup>5</sup> Cayman's EGFR Extracellular Domain (human, recombinant) protein can be used for ELISA. This protein is a disulfide-linked homodimer. The reduced monomer, comprised of the EGFR extracellular domain (amino acids 25-645) fused to human IgG1 Fc at its C-terminus, consists of 860 amino acids and has a calculated molecular weight of 95 kDa, and a predicted N-terminus of Leu25 after signal peptide cleavage. As a result of glycosylation, the monomer migrates at approximately 130 to 140 kDa by SDS-PAGE under reducing conditions.

## References

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1. Sigismund, S., Avanzato, D., and Lanzetti, L. Emerging functions of the EGFR in cancer. *Mol. Oncol.* **12(1)**, 3-20 (2018).
2. Herbst, R.S. Review of epidermal growth factor receptor biology. *Int. J. Radiat. Oncol. Biol. Phys.* **59(2 Suppl)**, 21-26 (2004).
3. Yano, S., Kondo, K., Yamaguchi, M., *et al.* Distribution and function of EGFR in human tissue and the effect of EGFR tyrosine kinase inhibition. *Anticancer Res.* **23(5A)**, 3639-3650 (2003).
4. Jia, Y., Yun, C.H., Park, E., *et al.* Overcoming EGFR(T790M) and EGFR(C797S) resistance with mutant-selective allosteric inhibitors. *Nature* **534(7605)**, 129-132 (2016).
5. Peng, K., Tian, X., Qian, Y., *et al.* Novel EGFR inhibitors attenuate cardiac hypertrophy induced by angiotensin II. *J. Cell. Mol. Med.* **20(3)**, 482-494 (2016).

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