PRODUCT INFORMATION

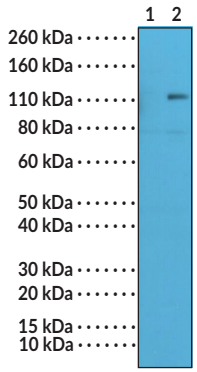
EGFR (Phospho-Tyr^{1173}) Rabbit Monoclonal Antibody (Clone RM269)

Item No. 32219

Overview and Properties

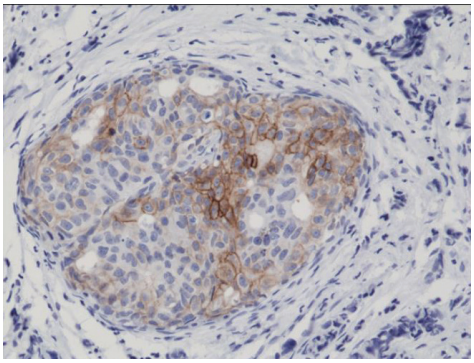
Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	Epidermal Growth Factor Receptor, ErbB-1, HER1
Immunogen:	Peptide corresponding to human EGFR (phospho-Tyr^{1173})
Cross Reactivity:	(+) EGFR (phospho-Tyr^{1173}); (-) EGFR without phosphorylation at Tyr^{1173}
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM269
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC is 1:500-1:1,000 and 1:1,000-1:5,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: A431 cells (untreated)
Lane 2: A431 cells (treated)

WB of A431 cells untreated or treated with EGF using EGFR (Phospho-Tyr^{1173}) Rabbit Monoclonal Antibody (Clone RM269) at a dilution of 1:500.



Immunohistochemical staining of formalin-fixed, paraffin-embedded (FFPE) human breast cancer tissue sections using EGFR (Phospho-Tyr^{1173}) Rabbit Monoclonal Antibody at a dilution of 1:5,000.

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Description

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.[1,2] It is a 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.[1-3] Under unstimulated conditions, EGFR is an auto-inhibited monomer in the plasma membrane.[1] 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 contains five C-terminal autophosphorylation sites, tyrosine 1068 (Tyr^{1068}), Tyr^{1148}, Tyr^{1173}, Tyr^{1086}, and Tyr^{992}.[4] EGFR autophosphorylation at Tyr^{1173} (phospho-Tyr^{1173}) leads to interaction with phospholipase Cγ (PLCγ) and Shc, which have roles in activating the MAPK signaling pathway. Increased levels of EGFR (phospho-Tyr^{1173}) are associated with poor progression-free survival in patients with non-small cell lung cancer (NSCLC). Levels of EGFR (phospho-Tyr^{1173}) are increased in, and positively correlate with activation of MAPK signaling and cytokine production in, bronchial epithelial biopsies from healthy individuals exposed to diesel exhaust.[5] Cayman's EGFR (Phospho-Tyr^{1173}) Rabbit Monoclonal Antibody (Clone RM269) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

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. Wang, F., Wang, S., Wang, Z., *et al.* Phosphorylated EGFR expression may predict outcome of EGFR-TKIs therapy for the advanced NSCLC patients with wild-type EGFR. *J. Exp. Clin. Cancer Res.* **31(1)**, 65 (2012).
5. Pourazar, J., Blomberg, A., Kelly, F.J., *et al.* Diesel exhaust increases EGFR and phosphorylated C-terminal Tyr 1173 in the bronchial epithelium. *Part. Fibre Toxicol.* **5**, 8 (2008).

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