

Anti-HB-EGF antibody, mouse monoclonal (4G10)

Product code	71-501
Size	100 µg
Storage	-20°C
Concentration	1.0 mg/ml
Buffer	PBS- with 50% glycerol
Purity	Purified IgG fraction with protein A from hybridoma cell culture medium.
Immunogen	Purified recombinant human HB-EGF ectodomain expressed in SF21 cell.
Isotype	Mouse IgG1κ
Reactivity	Human, but not with mouse
Special notes	Epitope: Amino acids 136-149 in the EGF domain The hybridoma clone 4G10 was established and characterized in the laboratory of Prof. E. Mekada of Osaka University, who is a leading scientist in this field (3, 4).
Application	1) Western blotting (0.2~1 µg /ml), non-denaturing condition. 2) Immunoprecipitation (2 µg/ml) 3) Immunofluorescence staining (5~10 µg/ml) 4) Immunohistochemistry (assay dependent) 5) Inhibition of HB-EGF ectoderm shedding (Ref 1) 6) Inhibition of Diphtheria Toxin binding to HB-EGFR (Ref 1)
Background	Heparin-binding epidermal growth factor-like growth factor (HB-EGF) is synthesized as a membrane-anchored precursor that is proteolytically cleaved to release the soluble mature growth factor, HB-EGF (1, 2). The former functions as juxtacrine and the latter as paracrine growth factor. Soluble HB-EGF shows several forms in Western blotting with apparent molecular weights 19~27 kDa due to heterogeneous O-glycosylation and N-terminal truncation. HB-EGF activates EGFR and ErbB4 and promotes the development in many tissues. In human ProHB-EGF is the cellular receptor for diphtheria toxin (3). Non-toxic mutant of diphtheria toxin, CRM197, inhibits HB-EGF function. As HB-EGF level is elevated in most ovarian cancer, CRM197 is being tested as an anticancer drug (4).
Data Link	UniProtKB Q99075 (HBEGF_HUMAN)
Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.	

Data Images: 71-501 Anti-HB-EGF antibody, mouse monoclonal (4G10)

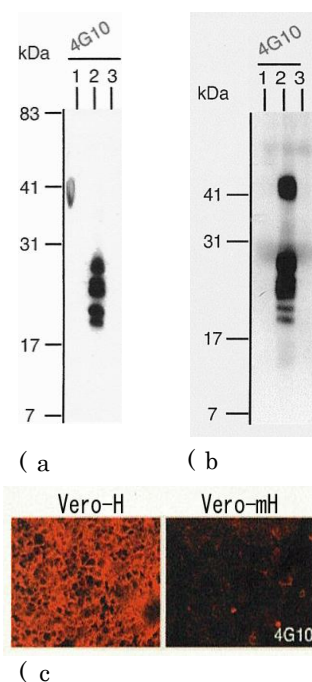


Fig.1 Identification of human HB-EGF by using anti-HB-EGF (clone 4G10)

(a) Western blotting

Sample 1: Vero cell extract

Sample 2: Vero cells carrying human HB-EGF expression vector

Sample 3: Vero cells carrying mouse HB-EGF expression vector

(b) Immunoprecipitation

Samples are the same as (a) except that the cell surface was biotinylated.

(c) Immuno-cytochemistry

Samples; (Vero-H) Vero cells carrying human HB-EGF expression vector,

(Vero-mH) Vero cells carrying mouse HB-EGF expression vector. Cells

treated with antibody 4G10 were fixed with 4% PFA

and reacted with Cys3 conjugated 2nd antibody.

References: This antibody has been used in the following publications.

1. Higashiyama S *et al* "A heparin-binding growth factor secreted by macrophage-like cells that is related to EGF." *Science* 251: 936-939 (1991) PMID: [1840698](#)
2. Prenzel N *et al* "EGF receptor transactivation by G-protein-coupled receptors requires metalloproteinase cleavage of proHB-EGF." *Nature* 402: 884 -888 (1999) PMID: [10622253](#)
3. Iwamoto R *et al* "Heparin-binding EGF-like growth factor, which acts as the diphtheria toxin receptor, forms a complex with membrane protein DRAP27/CD9, which up-regulates functional receptors and diphtheria toxin sensitivity." *EMBO J* 13: 2322-2330 (1994) PMID: [8194524](#)
4. Miyamoto S *et al* "Heparin-binding EGF-like growth factor is a promising target for ovarian cancer therapy." *Cancer Res* 64:5720-5727 (2004) PMID: [15313912](#)

Related product

71-503 Anti-HB-EGF antibody, mouse monoclonal (4G10) (biotin)

01-515 Diphtheria toxin mutant CRM197

01-517 Diphtheria toxin