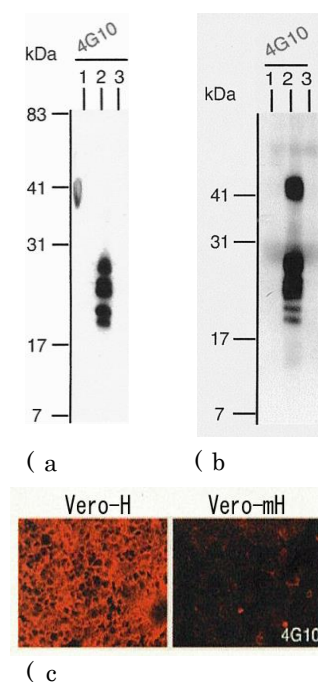


## Anti-HB-EGF antibody, mouse monoclonal (4G10)

<b>Product code</b>	71-501
<b>Size</b>	100 µg
<b>Storage</b>	-20°C
<b>Concentration</b>	1.0 mg/ml
<b>Buffer</b>	PBS- with 50% glycerol
<b>Purity</b>	Purified IgG fraction with protein A from hybridoma cell culture medium.
<b>Immunogen</b>	Purified recombinant human HB-EGF ectodomain expressed in SF21 cell.
<b>Isotype</b>	Mouse IgG1κ
<b>Reactivity</b>	Human, but not with mouse
<b>Special notes</b>	<b>Epitope:</b> Amino acids 136-149 in the EGF domain
<b>Application</b>	<ol style="list-style-type: none"> <li>1) Western blotting (0.2~1 µg /ml), non-denaturing condition.</li> <li>2) Immunoprecipitation (2 µg/ml)</li> <li>3) Immunofluorescence staining (5~10 µg/ml)</li> <li>4) Immunohistochemistry (assay dependent)</li> <li>5) Inhibition of HB-EGF ectoderm shedding (Ref 1)</li> <li>6) Inhibition of Diphtheria Toxin binding to HB-EGFR (Ref 1)</li> </ol>
<b>Background</b>	<p>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). 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).</p>
<b>Data Link</b>	UniProtKB/Swiss-Prot <a href="#">Q99075</a> (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

Samples 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 HG-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 2<sup>nd</sup> antibody.

**References: This antibody (non-biotinylated form) has been used in the following publications.**

1. Tang XH *et al* "The anti-tumor effect of cross-reacting material 197, an inhibitor of heparin-binding EGF-like growth factor, in human resistant ovarian cancer. *Biochem Biophys Res Commun*. 2012 Jun 15;422(4):676-80. PMID:22609777. IHC (human ovarian xenograph)
2. Hamaoka M *et al*. Anti-human HB-EGF monoclonal antibodies inhibiting ectodomain shedding of HB-EGF and diphtheria toxin binding. *J Biochem*. 2010 Jul;148(1):55-69. PMID: [20332144](https://pubmed.ncbi.nlm.nih.gov/20332144/). WB, IF, IP (human)

**Related product**

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

01-515 Diphtheria toxin mutant CRM197

01-517 Diphtheria toxin