

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

71-503 50 µg

Shipping and Storage: Shipped at 4°C or -20°C, and upon arrival, aliquot and store at -20°C.

Immunogen: Recombinant human HB-EGF ectodomain expressed in SF21 cell

Product: Biotinylated IgG (biotin/IgG = 7.5) 1 mg/ml in PBS, 50% glycerol, filter-sterilized, azide-free
Antibody produced by hybridoma cultured in serum-free medium

Isotype: mouse IgG1

Epitope: EGF domain

Reactivity: React with human, but not with mouse

Applications

- 1) Western blotting (0.2~1 µg/ml) under non-reducing conditions
- 2) Immunoprecipitation (2 µg/ml)
- 3) Immunofluorescent staining (1 µg/ml)

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). 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).

Data Link UniProtKB/Swiss-Prot [Q99075](#) (HBEGF_HUMAN)

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](#). **WB, IF, IP (human)**

Figure 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

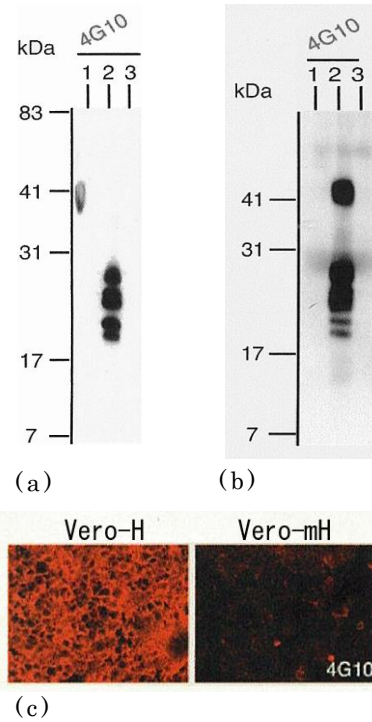
Sample 3: Vero cells carrying mouse HB-EGF expression vector

(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 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.



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