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

71:501  100 ug

**Storage:** Shipped at 4°C and store at -20°C  (Do not store below -20°C)

**Product:** Mouse monoclonal antibody produced in serum-free medium and purified by combination of chromatography

**Reactivity:** React with human, but not with mouse

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

**Epitope:** Amino acids 136-149 in the EGF domain

**Applications**  The antibody can react with both soluble and cell-surface attached forms of HB-EGF.
1) Western blotting (0.2–1 ug/ml), non-denaturing condition.
2) Immunoprecipitation (2 ug/ml)
3) Immunofluorescence staining (5–10 ug/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)

**Isotype:** IgG1 (mouse)

**Form:** 1 mg/ml in PBS, 50% glycerol, filter-sterilized, azide-free

**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). Nontoxic 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

**Data Link**  UniProtKB/Swiss-Prot [Q99075](Q99075) (HBEGF_HUMAN)
**Figure Identification of human HB-EGF by using anti-HB-EGF 4G10**

(a) Western blotting (Non-reducing condition)
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. After IP with the antibody, HRP-conjugated streptavidin was used to detect the HB-EGF by WB.

(c) Immunocytochemistry
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.

*HB-EGF is glycosylated at multiple sites and processed, which reflects multiple-form in WB.

**Reference** This antibody has been described and used in the following publications.


**Related product:**
- #71-503 Anti-HB-EGF antibody, biotinylated
- #01-515 Diphtheria toxin mutant CRM197
- #01-517 Diphtheria toxin