Technical Data Sheet

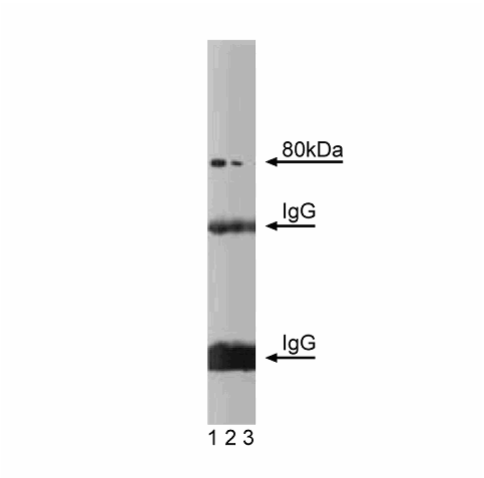
Purified Mouse Anti-4F2 hc/CD98HC

Product Information

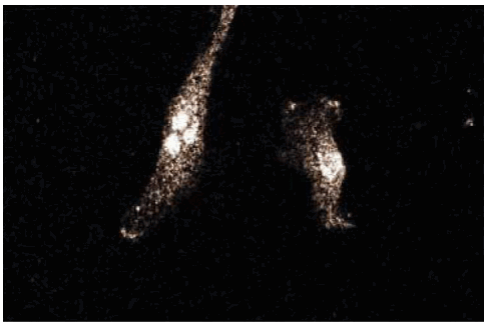
Material Number:	**611516**
Alternate Name:	4F2 hc
Size:	50 µg
Concentration:	250 µg/ml
Clone:	30/CD98HC
Immunogen:	Rat 4F2 hc aa. 9-204
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat
Target MW:	80 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

4F2 antigen (CD98) was identified as a heterodimer consisting of an 80 kDa type II glycosylated integral membrane protein 4F2 heavy chain (4F2 hc) linked by disulfide bonds to a hydrophobic, non-glycosylated, 37 kDa protein 4F2 light chain (4F2 lc). The 4F2 hc colocalizes with cadherins at cell adhesion sites and is required for the intracellular targeting of 4F2 heterodimers. 4F2 hc also associates with β1 integrins and overexpression of 4F2 reverses the suppression of β1 integrin activation caused by overexpression of β1 cytoplasmic domains. 4F2 has also been identified as a fusion regulatory protein FRP-1, since anti-FRP-1 antibodies can induce HIV-mediated cell fusion via an integrin system. 4F2 heterodimers are also important for activation of amino acid transport. 4F2 hc is 30% homologous with the amino acid transport activator D2/rBAT and expression of 4F2 hc in *Xenopus* oocytes induces system y+L amino acid transport. Thus, 4F2 hc may participate in intracellular trafficking and activation of amino acid transporters, as well as in the regulation of integrin signaling.



Western blot analysis of CD98HC on rat liver lysate.
Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution on CD98HC.



Chick Fibroblast

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

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Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
611467	Rat Liver Lysate	500 µg	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Fenczik CA, Sethi T, Ramos JW, Hughes PE, Ginsberg MH. Complementation of dominant suppression implicates CD98 in integrin activation. *Nature.* 1997; 390(6655):81-85.(Biology)

Kanai Y, Segawa H, Miyamoto K, Uchino H, Takeda E, Endou H. Expression cloning and characterization of a transporter for large neutral amino acids activated by the heavy chain of 4F2 antigen (CD98). *J Biol Chem.* 1998; 273(37):23629-23632.(Biology)

Nakamura E, Sato M, Yang H, et al. 4F2 (CD98) heavy chain is associated covalently with an amino acid transporter and controls intracellular trafficking and membrane topology of 4F2 heterodimer. *J Biol Chem.* 1999; 274(5):3009-3016.(Biology)

Tsurudome M, Ito M, Takebayashi S, et al. Cutting edge: primary structure of the light chain of fusion regulatory protein-1/CD98/4F2 predicts a protein with multiple transmembrane domains that is almost identical to the amino acid transporter E16. *J Immunol.* 1999; 162(5):2462-2466.(Biology)