



Anti Human 4F2 Heavy Chain (4F2hc:CD98) Polyclonal Antibody

Mammalian amino acid transport system is consisted of large variety of transporters with the reflection of amino acid molecule variety, and is classified into various transport systems by the transportative substrate selectivity and the Na⁺ dependence with the reflection of amino acid molecule variety.

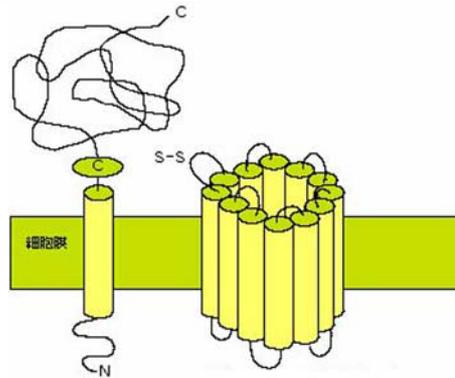
4F2 heavy chain (4F2hc:CD98) is originally identified as a cell-surface antigen which is upregulated by lymphocyte activation, and is a single membrane-spanning protein, of which molecular weight is under 85-kDa. The transporter corresponds to the amino acid transporter, system L, y⁺L, X_c, and asc, which requires 4F2hc for its functional expression. 4F2hc and its associated transporters are linked via disulfide band to form heterodimeric complexes. 4F2hc is present at cell membrane in blood vessel side of epitheliocyte, and transports its associated transporters to cell membrane of blood vessel in epitheliocyte.

This antibody has been proved to be useful for immunohistochemistry.

Package Size	250 μg (500 μL / vial)
Format	Rabbit polyclonal antibody 0.5mg/mL
Buffer	Block Ace as a stabilizer, containing 0.1%Proclin as bacteriostat
Storage	Store below -20°C Once thawed, store at 4°C. Repeated freeze-thaw cycles should be avoided.
Purification method	This antibody was purified from rabbit serum immunized with synthesized peptide of C- end of human 4F2hc by protein G affinity chromatography.
Working dilution for immunohistochemistry:	50 μg/mL



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4F2hc LAT Transporter Family

Heterodimeric Complex

【Reference】

1. Kanai Y., Segawa H., Miyamoto M., Uchino H., Takeda E., and Endou H.: Expression Characterization of a Transporter for Large Neutral Amino Acids Activated by the Heavy Chain of 4F2 Antigen (CD98) *J.Biol.Chem.* 273: 23629-23632, 1998
2. Fukasawa Y., Segawa H., Kim J.Y., Chairoungdua A., Kim D.K., Endou h., and Kanai Y.: Identification and characterization of a Na⁺-independent neutral amino acid transporter which associates with the 4F2heavy chain and exhibits selectivity for small neutral D- and L- amino acids. *J.Biol.Chem.* 275(13): 9690-9698,2000
3. Matsuo H., Tsukada S., Nakata T., ChairoungduaA., Kim D. K., Cha S. H. ,Inatomi J., Yorifuji H., Fukuda J., Endou H., Kanai., *Neuroreport* 11 (16),3507-3511,2000
4. Kim J.Y., Kanai Y., Chairoungdua A., Cha S.H., Matsuo H., kim D.K., Inatomi J., Sawa H., Ida Y., Endou H.,:Human cystine/glutamate transporter: cDNA cloning and upregulation by oxidative stress in glioma cells. *Biochim. Biophys.Acta.*1512: 335-344,2001.
5. Yanagawa O., Kanai Y., Chairoungdua A., Kim D.K., Segawa H., Nii T., Cha S.H., Matsuo H., Fukushima J., Fukusawa Y., Tani Y., Taketani Y., Uchino H., Kim J.Y., Inatomi J., Okayasu I., Miyamoto K., Takeda E., Goya T., and Endou H.:Human L-type amino acid transporter 1 (LAT1): Characterization of function and expression in tumor cell lines. *Biochim.Biophys.Acta.*1514: 291-302,2001

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抗ヒト 4F2 Heavy Chain (4F2hc:CD98) ポリクローナル抗体

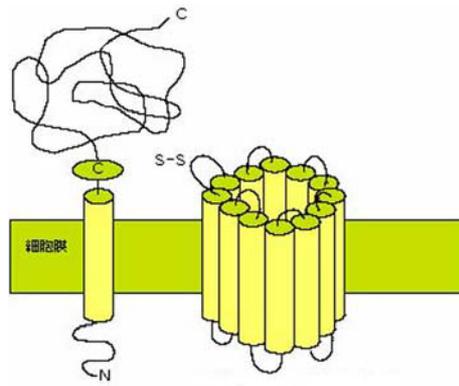
哺乳類のアミノ酸輸送システムは、基質となるアミノ酸分子の多様性を反映して多種類のトランスポーターから構成され、その輸送基質選択性とNa⁺依存性により種々の輸送系に分類されています。

4F2 heavy chain (4F2 hc:CD98)は、分子量 85kDa 以下の 1 回膜貫通型の糖タンパク質で、リンパ球の活性化抗原として発見されました。多選択性アミノ酸トランスポーターファミリーの中でも、中性アミノ酸輸送系 L、小型中性アミノ酸輸送系 asc、中性及び塩基性アミノ酸輸送系 y+L、シスチン、塩基性及び中性アミノ酸輸送系 x-c に相当する特定のトランスポーターと 4F2hc は、ジスルフィド結合し、ヘテロ2量体を形成することでその機能を発揮します。4F2hc は、上皮細胞の血管側の細胞膜に存在し、上記のトランスポーターを上皮細胞の血管側の細胞膜へ移送する働きをします。

本抗体は、免疫組織染色に有用であることが確認されています。

容量	250µg (500µL/vial)
形状	ウサギポリクローナル抗体 0.5mg/mL、凍結品
バッファー	PBS [2%ブロックエース(安定化蛋白)、0.1%proclin 含有]
保管方法	-20℃以下 抗体を低濃度にて冷蔵保管されますと、失活する恐れがあります。 融解後は4℃で保存し、お早めにご使用下さい。 また凍結融解を繰り返すことは避けて下さい。
製造方法	ヒト 4F2hc の C 末ペプチドで免疫して得られたウサギの抗血清より、プロテイン G アフィニティーカラムにて精製。
使用濃度	免疫染色:50µg/mL

抗ヒト 4F2 Heavy Chain (4F2hc:CD98) ポリクローナル抗体



4F2hc LAT トランスポーターファミリー
ヘテロ2量体型アミノ酸トランスポーター

【参考文献】

1. Kanai Y., Segawa H., Miyamoto M., Uchino H., Takeda E., and Endou H.: Expression Characterization of a Transporter for Large Neutral Amino Acids Activated by the Heavy Chain of 4F2 Antigen (CD98) *J.Biol.Chem.* 273: 23629-23632, 1998
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4. Kim J.Y., Kanai Y., Chairoungdua A., Cha S.H., Matsuo H., kim D.K., Inatomi J., Sawa H., Ida Y., Endou H.,:Human cystine/glutamate transporter: cDNA cloning and upregulation by oxidative stress in glioma cells. *Biochim. Biophys.Acta.*1512: 335-344,2001.
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6. 蛋白質 核酸 酵素 46(5) 583-586,2001