Data Sheet (Cat.No.TMPY-03414)

TargetMol

ABHD10 Protein, Human, Recombinant (aa 53-306, His)

General Information

Synonyms:	ABHD10;abhydrolase domain containing 10
Protein Construction:	A DNA sequence encoding the human ABHD10 (Q9NUJ1)(Thr53-Asn306) was fused with a polyhistide tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9NUJ1
Molecular Weight:	30.3 kDa (predicted); 32 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, 10% glycerol, pH 8.0.Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Mycophenolic acid (MPA), the active metabolite of the immunosuppressant mycophenolate mofetil (MMF), is primarily metabolized by glucuronidation to a phenolic glucuronide (MPAG) and an acyl glucuronide (AcMPAG). It is known that AcMPAG, which may be an immunotoxic metabolite, is deglucuronidated in human liver. AcMPAG deglucuronidation activity was detected in both human liver cytosol (HLC) and microsomes (HLM). By purification from HLC with column chromatographic purification steps, the enzyme responsible for AcMPAG

deglucuronidationis identified as α/β hydrolase domain containing 1 (ABHD1). Recombinant ABHD1 expressed in Sf9 cells efficiently deglucuronidated AcMPAG with a K(m) value of 1.7 ± 1.2 μM, which was similar to those in HLM, HLC, and human liver homogenates (HLH). Immunoblot analysis revealed ABHD1 protein expression in both HLC and HLM. The AcMPAG deglucuronidation by recombinant ABHD1, HLC, and HLH were potently inhibited by AgNO(3), CdCl(2), CuCl(2), PMSF, bis-p-nitrophenylphosphate, and DTNB. The CL(int) value of AcMPAG formation from MPA, which was catalyzed by human UGT2B7, in HLH was increased by 1.8-fold in the presence of PMSF. Thus, human ABHD1 would affect the formation of AcMPAG, the immunotoxic metabolite.

Reference

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Carr PD. et al., 2009, Protein Pept Lett. 16 (10): 1137-48.
Cheah E. et al., 1992, Protein Eng. 5 (3): 197-211.
Iwamura A. et al., 2012, J Biol Chem. 287 (12): 9240-9.