

Traumatic Brain Injury Biomarker Antibody Sampler Kit

HAK21057



Contains Product	Quantity	Applications	Species reactivity	MW(kDa)
GFAP [ET1601-23]	20μl	WB, IHC-P, IF-Tissue, IHC-Fr, mIHC, IP	H, M, R	50 kDa
S100 beta [ET1610-3]	20μl	WB, IF-Tissue, IHC-P, IHC-Fr, IF-Cell, FC, IP	H, M, R, Z	11 kDa
PGP9.5 [ET1703-22]	20μl	WB, IF-Cell, IF-Tissue, IHC-P, IP, FC, IHC-Fr	H, M, R	25 kDa
NF-L [HA721538]	20μl	WB, IHC-P, IF-Cell, IF-Tissue, IHC-Fr	H, M, R	62 kDa
NSE [ET1610-96]	20μl	WB, IF-Cell, IHC-P	H, M, R	47 kDa
Myelin Basic Protein [ET1702-15]	20μl	WB, IHC-P, IF-Tissue, IHC-Fr, mIHC	H, M, R	33 kDa
PSD95 [ET1602-20]	20μl	WB, IF-Tissue, IHC-P, IHC-Fr	H, M, R	80 kDa
Tau [ET1603-2]	20μl	WB, IHC-P, IP, IHC-Fr	H, M, R	79 kDa
HRP-Goat Anti-Rabbit IgG (H+L) [HA1001]	100μl	WB, ELISA, IHC-P	Rab	

Description: The Traumatic Brain Injury Biomarker Antibody Sampler Kit provides an economical means of detecting proteins involved in traumatic brain injury. The kit includes enough antibodies to perform two western blot experiments with each primary antibody.

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

Background Traumatic brain injury (TBI) is a worldwide health issue that significantly affects the patient as well as their family. Several proteins are of interest, which are candidates for measurement in blood after TBI. Glial fibrillary acidic protein (GFAP) is an astrocytic intermediate filament protein. The number and size of astrocytes, in a process called astrogliosis, is also positively correlated with brain injury. Also abundantly expressed in astrocytes, S100B is commonly used as an astrocytic marker and is positively correlated with TBI. Neurofilament-L (NfL) and tau are part of the neuronal cytoskeleton that provide structure to axons. Myelin basic protein (MBP) is enriched in myelin and helps maintain its structure. UCHL1 and Enolase-2 are ubiquitin hydrolases and glycolytic enzymes, respectively, that are enriched in neurons. PSD95 is an adaptor protein enriched at postsynaptic sites in neurons. After brain injury, neuron-enriched proteins, as well as proteins that maintain neuronal/axonal integrity, can be measured in the blood, reflecting neuronal damage.

Database links: UniProt ID: P14136, P03995, P47819, P04271, P50114, P04631, P09936, Q9R0P9, Q00981, P07196, P08551, P19527, P09104, P17183, P07323, P02686, P04370, P02688, P78352, Q62108, P31016, P10636, P10637, P19332

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Applications: WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Cell=Immunofluorescence (Cell) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation

Images

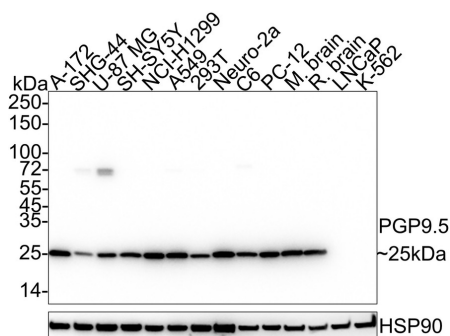


Fig1: Western blot analysis of PGP9.5 on different lysates with Rabbit anti-PGP9.5 antibody (ET1703-22) at 1/2,000 dilution.

Lane 1: A-172 cell lysate (20 µg/Lane)
 Lane 2: SHG-44 cell lysate (20 µg/Lane)
 Lane 3: U-87 MG cell lysate (20 µg/Lane)
 Lane 4: SH-SY5Y cell lysate (20 µg/Lane)
 Lane 5: NCI-H1299 cell lysate (20 µg/Lane)
 Lane 6: A549 cell lysate (20 µg/Lane)
 Lane 7: 293T cell lysate (20 µg/Lane)
 Lane 8: Neuro-2a cell lysate (20 µg/Lane)
 Lane 9: C6 cell lysate (20 µg/Lane)
 Lane 10: PC-12 cell lysate (20 µg/Lane)
 Lane 11: Mouse brain tissue lysate (30 µg/Lane)
 Lane 12: Rat brain tissue lysate (30 µg/Lane)
 Lane 13: LNCaP cell lysate (negative) (20 µg/Lane)
 Lane 14: K-562 cell lysate (negative) (20 µg/Lane)

Predicted band size: 25 kDa

Observed band size: 25 kDa

Exposure time: 7 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1703-22) at 1/2,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Fig2: Western blot analysis of PSD95 on different lysates with Rabbit anti-PSD95 antibody (ET1602-20) at 1/2,000 dilution.

Lane 1: Human brain tissue lysate
 Lane 2: Mouse brain tissue lysate
 Lane 3: Mouse hippocampus tissue lysate
 Lane 4: Rat brain tissue lysate
 Lane 5: Rat hippocampus tissue lysate

Lysates/proteins at 20 µg/Lane.

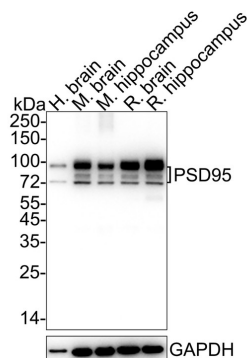
Predicted band size: 80 kDa

Observed band size: 75-100 kDa

Exposure time: 20 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1602-20) at 1/2,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.



Note: All products are “FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE”.

Background References

1. van Amerongen S, Caton DK, Pijnenburg YAL, Scheltens P, Vijverberg EGB. Clinical Features of Patients with Alzheimer's Disease and a History of Traumatic Brain Injury. *Dement Geriatr Cogn Dis Extra*. 2022 Sep 16;12(3):122-130.
2. Alouani AT, Elfouly T. Traumatic Brain Injury (TBI) Detection: Past, Present, and Future. *Biomedicines*. 2022 Oct 3;10(10):2472.

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