## **Neuroscience Current Issue**



THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION

### A novel sensitive assay for detection of a biomarker of pericyte injury in cerebrospinal fluid



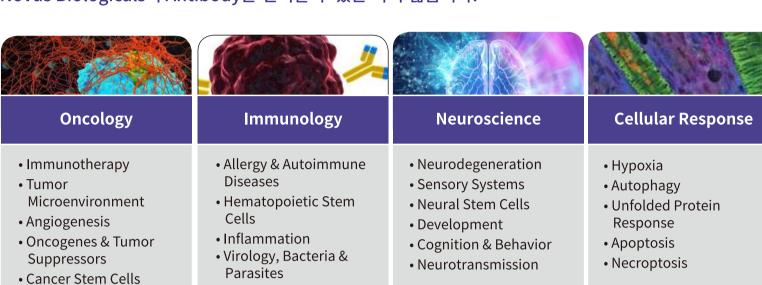
Introduction: Blood-brain barrier (BBB) breakdown and loss of brain capillary pericytes contributes to cognitive impairment. Pericytes express platelet-derived growth factor receptor-β PDGFRβ) that regulates brain angiogenesis and blood vessel stability. Elevated soluble PDGFRB (sPDGFRB) levels in cerebrospinal fluid (CSF) indicate pericyte injury and BBB breakdown, which is an early biomarker of human cognitive dysfunction.

Results: We developed standard operating procedures for a highly sensitive and reproducible sPDGFRβ immunoassay with a dynamic range from 100 to 26,000 pg/mL, and confirmed elevated CSF sPDGFRß levels in individuals with cognitive dysfunction.

#### 당신의 실험에 힘을 실어 드립니다.

Novus Biologicals의 Antibody는 선택할 수 있는 폭이 넓습니다.

• Toll-Like Receptors



### PDGF R beta Antibody (SY10~08)

- 다양한 Reactivity
- 많은 Application
- 넓은 확장성

# Novus Antibody도 확인해보세요

Product Details	
Summary	
Reactivity	Hu, Mu, Rt Species Glossary
Applications	WB, IHC, IHC-P, IP
Clone	SY10-08
Clonality	Monoclonal
Host	Rabbit
Conjugate	Unconjugated
Concentration	1 mg/ml

## Brain Shuttle Neprilysin reduces central Amyloid-β levels

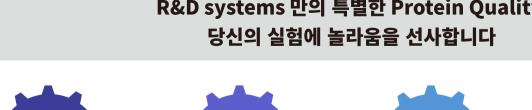


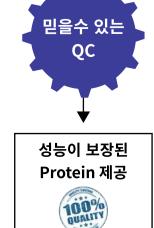
Reducing Amyloid  $\beta$  (A $\beta$ ) in the brain is of fundamental importance for advancing the therapeutics for Alzheimer's disease. The endogenous metallopeptidase neprilysin (NEP) has been identified as one of the key Aβ-degrading enzymes. Delivery of NEP to the brain by utilizing the Brain Shuttle (BS) transport system offers a promising approach for clearing central Aβ. We fused the extracellular catalytic domain of NEP to an active or inactive BS module. The two BS-NEP constructs were used to investigate the pharmacokinetic/pharmacodynamics relationships in the blood and the cerebrospinal fluid (CSF) in dose-response and multiple dosing. As previously shown, NEP was highly effective at degrading Aβ in blood but not in the CSF compartment after systemic administration. In contrast, the NEP with an active BS module led to a significant CSF exposure of BS-NEP, followed by substantial Aβ reduction in CSF and brain parenchyma. Our data show that a BS module against the transferrin receptor facilitates the transport of an Aβ degrading enzyme across the blood-brain barriers to efficiently reduce Aβ levels in both CSF and brain.

#### >95%, by SDS-PAGE under reducing conditions and visualized by silver stain Purity

Recombinant Human Neprilysin (CHO-expressed) Protein, CF Summary

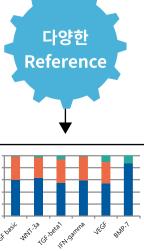
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.	
Activity	Measured by its ability to cleave the fluorogenic peptide substrate, Mca-RPPGFSAFK(Dnp)-OH (Catalog # ES005). The specific activity is >1,500 pmol/min/µg, as measured under the described conditions.	
Source	Chinese Hamster Ovary cell line, CHO-derived human Neprilysin/CD10 protein Tyr52-Trp750 with an N-terminal 6-His tag	
Accession #	P08473	
N-terminal Sequence Analysis	His	
Predicted Molecular Mass	81 kDa	
SDS-PAGE	102 kDa, reducing conditions	
R&D systems 만의 특별한 Protein Quality		













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