

Table 2.2. Ischaemic stroke candidate protein biomarkers.

Protein	Description	Association	Proposed Clinical Application
S100 calcium binding protein B (S100B)	Calcium binding protein, involve in cell cycle progression and differentiation	CNS' tissue injury	Diagnosis, infarct volume, stroke severity, haemorrhagic transformation.
Glial fibrillary acidic protein (GFAP)	Intermediate filament protein, role in cell structure, blood brain barrier and communication	CNS' tissue injury	Diagnosis.
Neuron specific enolase (NSE)	Neuronal glycolytic enzyme	CNS' tissue injury	Diagnosis, infarct volume, stroke severity.
N-methyl-d-aspartate receptor antibodies (NMDA-R Ab)	Myelination of CNS'>PNS''	Inflammatory responses	Diagnosis, Infarct volume, stroke severity.
C-reactive protein (CRP)	Acute phase reactant, role in atherothrombosis and ischaemic injury	Inflammation responses	Diagnosis, stroke risk.
Interleukin-6 (IL-6)	Acute phase response, fever	Inflammatory responses	Infarct volume, stroke severity.
Tissue necrosis factor-alpha (TNF- α)	Inflammation, acute phase response	Inflammatory responses	Infarct volume, stroke severity.

CNS' = Central nervous system; PNS'' = Peripheral nervous system

Table 2.2. Continued

Protein	Description	Association	Proposed Clinical Application
Vascular cell adhesion molecule-1 (VCAM1)	Leukocyte-endothelial cell interaction	Inflammatory response	Diagnosis, Infarct volume.
Intercellular adhesion molecule-1 (ICAM1)	Leukocyte-endothelial cell interaction	Inflammatory response	Infarct volume, stroke severity.
Matrix metalloproteinases (MMP2, MMP9)	Plaque matrix disruption causing endothelial damage	Inflammatory response	Diagnosis, infarct volume, stroke severity, haemorrhagic transformation.
Lipoprotein-associated phospholipase A2 (Lp-PLA2)	Hydrolyzes oxidized phospholipid	Inflammatory response	Stroke risk.
Apolipoproteins (ApoC-I, ApoC-III)	Lipid metabolism	Inflammatory response	Diagnosis.
Fibrinogen	Blood coagulation, platelet activation, acute phase reactant	Coagulation/Thrombosis	Stroke risks.
D-Dimer	Acute thrombosis	Coagulation/Thrombosis	Diagnosis, cardioembolic stroke.
von-Willebrand factor (vWF)	Coagulation, platelet adhesion, binds factor VIII	Coagulation/Thrombosis	Diagnosis.