

New Tools for Synaptic Biomarker Research

Ultrasensitive Single Molecule Counting (SMC[®]) Human SNAP-25 and TDP-43 Kits

Neuronal synapses are a key part of neuroscience research due to their roles in memory, sensory, and motor functions. Synaptosomal-associated protein, 25 kDa (SNAP-25) and TAR DNA binding protein 43 (TDP-43) act in different ways to affect synapse development and function, both in the context of normal cognition and neurodegenerative disorders. Specifically, SNAP-25 acts in membrane fusion of synaptic vesicles, and TDP-43 modulates transcription of several synaptic RNA targets.

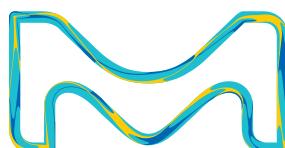
To support the continued research efforts on these markers and empower further breakthroughs, we now offer new SMC[®] high sensitivity immunoassays for both of these emerging biomarkers. Using the state-of-the-art SMCxPRO[®] ultrasensitive immunoassay system in conjunction with these kits, researchers can more accurately measure these molecules across human cerebrospinal fluid (CSF), serum, and plasma samples, to facilitate comprehensive profiling of these analytes in development, health, and disease.

Benefits of SMC[®] Kits

- Suitable for a variety of research settings, including basic research and therapeutic development
- Harnesses the power of the SMCxPRO[®] ultrasensitive immunoassay platform to accurately measure analytes, even in low-abundance
- High assay sensitivity empowers cutting-edge blood-based biomarker studies

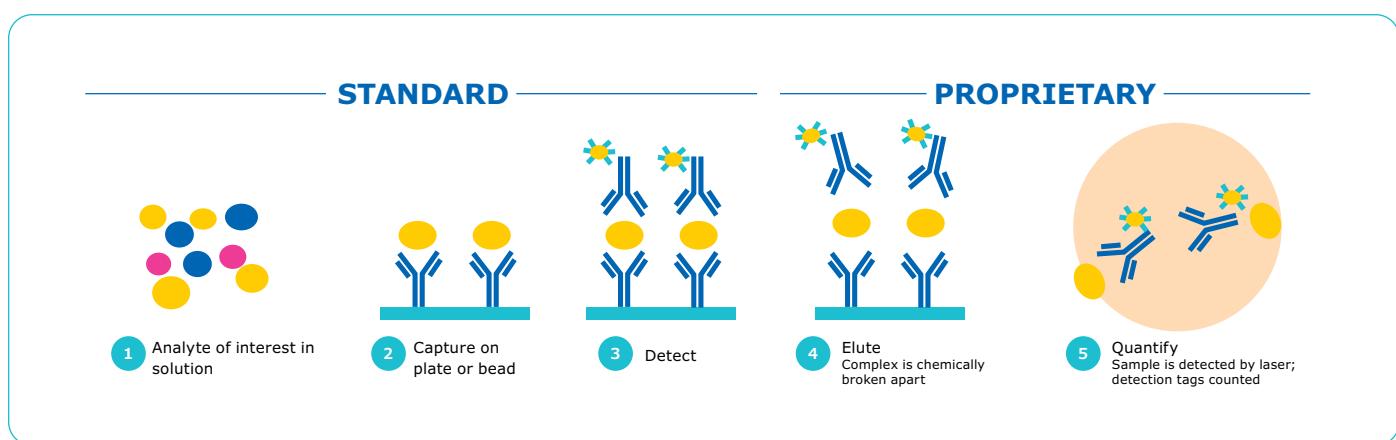
Features of SMC[®] SNAP-25 and TDP-43 High Sensitivity Kits

	SNAP-25	TDP-43
Key Research Applications	Cognitive biology, behavioral disorders	Dementia, brain injury, motor neuron disease
Assay (LLOQ in pg/mL)	0.26 pg/mL	5.21 pg/mL
Standard Curve Range (pg/mL)	0.13–300	2.60–5,000
Verified Sample Types	Human serum, plasma, CSF	Human serum, plasma, CSF
Sample Volume Needed (µL)	100	12.5 (serum & plasma), 100 (CSF)
Mean Recovery % (Parallelism)	112 (serum), 110 (plasma), 97 (CSF)	96 (serum), 100 (plasma), 89 (CSF)
Intra-Assay %CV	<10	<10
Inter-Assay %CV	<15	<15

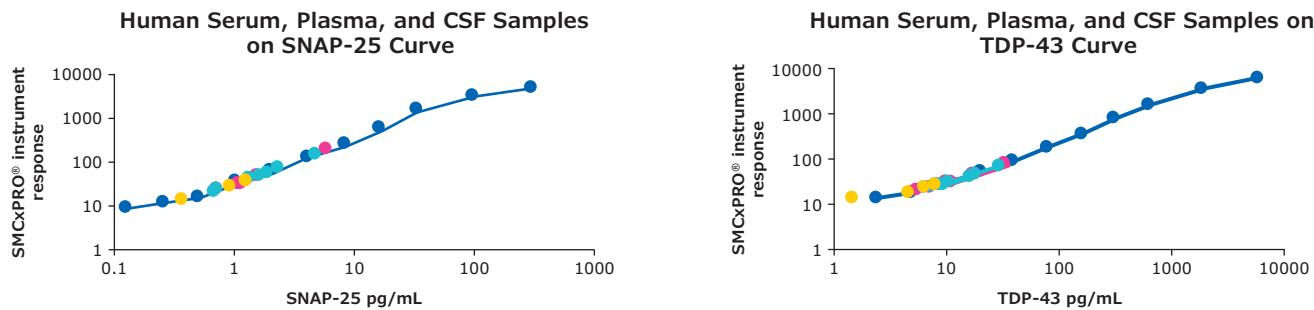


Assay Principle and Example Data

A.



B.



A) Proprietary elution and digital molecular counting steps enable accurate and precise analyte measurements in human serum, plasma, and CSF at much lower levels compared to traditional immunoassays. **B)** Standard curves (blue) for SMC® Human SNAP-25 (left panel) and TDP-43 (right panel) kits, with in-range detection of diluted human plasma (cyan), serum (magenta), and CSF samples (yellow) overlaid on the curves.

Kit Ordering Information

Product Description	Cat. No.
SMC® Human SNAP-25 High Sensitivity Immunoassay Kit	03-0206-00
SMC® Human TDP-43 High Sensitivity Immunoassay Kit	03-0205-00

For Research Use Only. Not For Use In Diagnostic Procedures.

Discover more at SigmaAldrich.com/smc-neuro

To place an order or receive technical assistance
 Order/Customer Service: SigmaAldrich.com/order
 Technical Service: SigmaAldrich.com/techservice
 Safety-related Information: SigmaAldrich.com/safetycenter

Merck KGaA
 Frankfurter Strasse 250
 64293 Darmstadt, Germany
SigmaAldrich.com

© 2022 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved. Merck, the vibrant M, Millipore, and SMCxPRO are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

