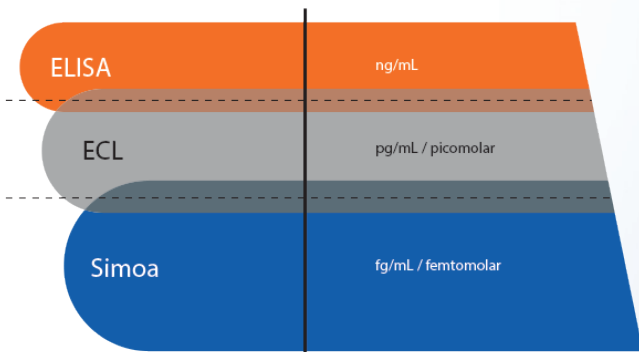


The Simoa is an exciting new platform changing the way Scientists study biomarkers in a majority of therapeutic areas including oncology, neurology, cardiology, inflammation and infectious disease.



While analyses that rely on traditional ELISA and electrochemiluminescence (ECL) are limited to the nanogram or picogram range and above, the Simoa method is capable of measuring proteins at femtogram concentrations.

Biomarkers can be used to indicate the presence or severity of a particular disease state. The ability of the Simoa to detect femtomolar changes in biomarker levels is revolutionary. It can be used to monitor the risk of progression of a disease and/or monitor the efficacy of treatment.

The Simoa enables development of methods that, on average, increase the sensitivity 1000 fold over conventional assays. This increased sensitivity allows for measurement of biomarkers in circulation that are otherwise undetectable. The science behind Simoa is based upon the isolation of individual immunocomplexes on paramagnetic beads using standard ELISA reagents.

The neurodegenerative biomarker field is benefiting the most from the ability of the Simoa HD-1 analyzer to detect femtomolar levels. The increased sensitivity has improved screening of inflammatory cytokines and chemokines to support pre-clinical and clinical trials.

### Abeta 42

Method	Simoa
Matrix	CSF
LLOQ (pg/mL)	0.1
ULOQ (pg/mL)	80.0
Sample Volume	100.0

### TNF-alpha

Method	Simoa
Matrix	Plasma
LLOQ (pg/mL)	0.206
ULOQ (pg/mL)	50.0
Sample Volume	100.0

### Nf-L

Method	Simoa
Matrix	Plasma/CSF
LLOQ (pg/mL)	0.223
ULOQ (pg/mL)	500
Sample Volume	100.0

Above are some of the biomarker assays KCAS has evaluated via Simoa as of March of 2017.