

# Human Free BDNF

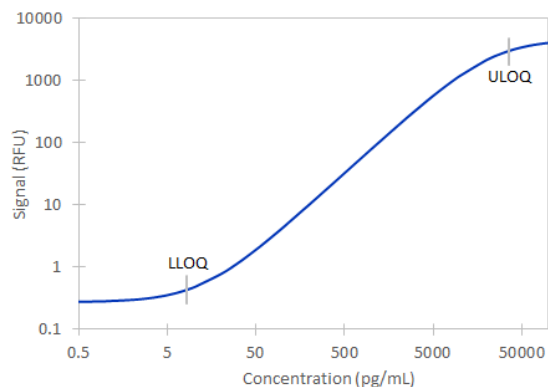
## Product Description

Simple Plex™ assay is for the detection of human free Brain-Derived Neurotrophic Factor (BDNF) in serum and platelet-poor plasma (EDTA/Heparin) in Sample Diluent SD13.

## Calibration Curve

The factory generated calibration curve shown below was compiled by averaging replicates of each calibrator from multiple runs. The 4PL curve fit shows calibrator concentration as a function of signal intensity (relative fluorescent units, RFU).

Human serum and plasma assays are quality control tested using a serum/plasma based Bio-Techne Reference Material. Curves may be adjusted to this material for lot-to-lot consistency.



## Limits of Quantification

Data shown represents typical performance results of the Human Free BDNF Simple Plex Assay.

	Concentration (pg/mL)
Limit of Detection (LOD)	5.25
Lower Limit of Quantitation (LLOQ)	9.44
Upper limit of Quantitation (ULOQ)	36,000

LOD is calculated by adding three standard deviations to the mean background signal determined from multiple runs.

LLOQ and ULOQ are calculated across multiple cartridge lots and Ellas as the in-well concentration range in which curve points recover 80-120% with a coefficient of variation (CV) of less than 20%, and in which measured samples recover 80-120% upon serial dilution with a CV less than 15%.

## Endogenous Levels

Endogenous levels were calculated from multiple samples. Samples were from apparently healthy volunteers. No medical histories were available for the donors in this study. The values provided below are for informational purposes only. Actual concentration values and detectability rates may vary across different sample cohorts.

Sample Type	Mean (pg/mL)	Range (pg/mL)	% above LLOQ
Serum (n=10)	32,801	21,105 - 55,408	100
PP-EDTA plasma (n=10)	1123	44.3 - 4516	100
PP-Heparin plasma (n=10)	1372	352 - 3455	100

## Correlation

This assay has been correlated to the Human Free BDNF Quantikine™ ELISA Kit ([Catalog # DBD00](#)) with an R<sup>2</sup> value greater than 0.9.

## Precision

**Intra-Assay Precision:** Multiple replicates of each control were tested in one assay.

**Inter-Assay Precision:** Replicates of each control were tested in multiple runs performed by at least three technicians using two lots of reagents.

Parameter	Intra-Assay		Inter-Assay	
	Low	High	Low	High
n	16	16	20	22
Mean (pg/mL)	207	10,079	219	11,200
Standard Deviation	19.8	867	22.9	1144
CV (%)	9.6	8.6	10.5	10.2

## Recovery

Recovery at three different spiked concentrations within the range of the assay was evaluated.

Sample Type	Average%	Range%
PP-EDTA plasma (n=4)	82	76-86

## Linearity

Samples containing and/or spiked with high concentrations of human BDNF were serially diluted with Sample Diluent to produce samples within the dynamic range of the assay.

Dilution	Parameter	Serum (n=4)	Platelet-Poor	
			EDTA plasma (n=4)	Heparin plasma (n=4)
1:2	Avg % of Expected	93	117	107
	Range (%)	82-107	112-124	98-114
1:4	Avg % of Expected	101	110	115
	Range (%)	97-104	104-119	113-118
1:8	Avg % of Expected	105	93	109
	Range (%)	101-112	83-113	101-119
1:16	Avg % of Expected	94	101	116
	Range (%)	90-100	98-107	107-125

## Specificity

This assay recognizes natural and recombinant human BDNF. The factors listed were prepared at 50 ng/mL in Sample Diluent and assayed for cross-reactivity. Preparations of the following factors at 50 ng/mL in a recombinant human BDNF control were assayed for interference. No significant cross-reactivity or interference was observed.

### Recombinant human:

- Pro-BDNF (aa 19-128)
- CNTF
- β-NGF
- NGF R
- NT-3
- NT-4
- TrkC

Recombinant human Pro-BDNF (aa 1-247) cross-reacts approximately 15% in this assay.

Recombinant human TrkB interferes at concentrations > 0.781 ng/mL.

## Sample Collection and Storage

The sample collection and storage conditions listed below are intended as general guidelines. Sample stability has not been evaluated.

**Serum:** Use a serum separator tube (SST) and allow samples to clot for 30 minutes at room temperature before centrifugation for 15 minutes at 1000 x g. Remove serum and assay immediately or aliquot and store samples at  $\leq -20$  °C. Avoid repeated freeze-thaw cycles.

**Platelet-poor Plasma:** Collect plasma using heparin or EDTA as an anticoagulant. Centrifuge for 15 minutes at 1000 x g within 30 minutes of collection. Assay immediately or aliquot and store samples at  $\leq -20$  °C. Avoid repeated freeze-thaw cycles.

**BDNF is present in platelet granules and is released upon platelet activation. Therefore, to measure circulating levels of BDNF, platelet-poor plasma should be collected for measurement. It should be noted that many protocols for plasma preparation, including procedures recommended by the Clinical and Laboratory Standards Institute (CLSI), result in incomplete removal of platelets from blood.**

**Note:** Grossly hemolyzed or icteric samples are not suitable for use with this assay.

## Sample Preparation

Serum samples require a minimum 10-fold dilution with sample diluent. A suggested 10-fold dilution can be achieved by adding 10  $\mu$ L of sample to 90  $\mu$ L of Sample Diluent. Plasma samples require a minimum 2-fold dilution with sample diluent. A suggested 2-fold dilution can be achieved by adding 35  $\mu$ L of sample to 35  $\mu$ L of Sample Diluent. Samples above the ULOQ require further dilution.

## Assay Protocol

Refer to the Product Insert and CoA provided on our website for the specific assay protocol and precautions. A generic product protocol can be found online at: [www.bio-techne.com/simple-plex-protocol](http://www.bio-techne.com/simple-plex-protocol)

Download the CoA and product insert:  
[www.bio-techne.com/resources/cofa-finder-tool](http://www.bio-techne.com/resources/cofa-finder-tool)