



Alpha –synuclein assay

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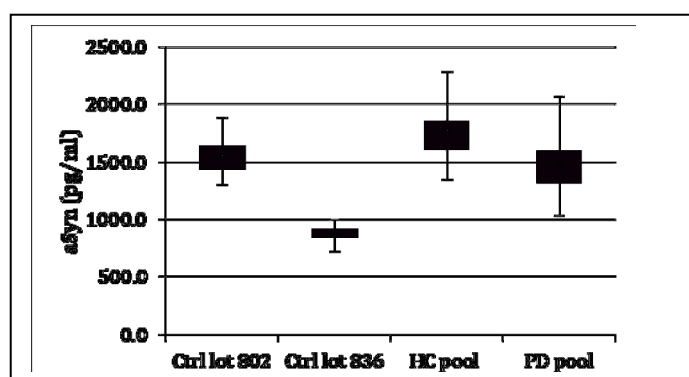
Summary

The concentration of alpha-synuclein in CSF samples collected for PPMI were analyzed using an ELISA assay available commercially from BioLegend (cat # 844101).

Method

The method of analysis is a sandwich type ELISA that utilizes a luminescent readout. The reference standards used in the assay ranged from 6.1-1500 pg/ml, and this range defines the reportable range for the assay. The concentration of alpha-synuclein in each sample was determined by interpolation of values against the standard curve established by the reference standards using a 4-parameter regression. Recombinant alpha-synuclein from rPeptide was used as the standard in this assay. Each sample was analyzed in duplicate at a dilution of 1:10. On each plate 2 CSF samples were included as QC samples. In addition, 2 additional CSF pools, one pool from healthy control donors (HC pool) and one pool from PD patient donors (PD pool), were included as reference pools. The QC samples and reference pools were run in duplicate at 1:10 dilution and the interpolated values, adjusted for dilution factor, were compared across the plates used in this analysis. Plate acceptance criteria were set as: Replicate standard curve calibrators must be less than 15% CV and QC samples must read within the established range (mean \pm 20%).

Figure 1: Performance of QC samples and reference pools across all plates reported in PPMI analysis. The box and whisker plot demonstrates the performance of the QC samples and reference pools across 87 plates reported in the PPMI dataset. QC sample 'lot 802' had an expected nominal alpha-synuclein concentration of 1571 pg/ml. Across the 87 plates reported in this data set the mean value and standard deviation for 'lot 802' was 1530 \pm 132.6 pg/ml. QC sample 'lot 836' had an expected nominal alpha-synuclein concentration of 842 pg/ml. Across the 87 plates reported in this data set the mean value and standard deviation for 'lot 836' was 876 \pm 63.9 pg/ml. The mean value \pm standard deviation of alpha-synuclein reported for the HC pool and PD pools were 1739 \pm 196 pg/ml and 1469 \pm 188 pg/ml, respectively.





References

1. Assay protocol
http://www.biolegend.com/media_assets/support_protocol/844101_protocol_050515.pdf
2. Product information page- <http://www.biolegend.com/human-alpha-synuclein-elisa-kit-11210.html>

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