



Global Biomarkers Standardization Consortium
In-person Meeting at AAIC
Saturday, July 13, 2019
5:30 – 8:30 p.m. Pacific Time
Intercontinental Downtown
Los Angeles, CA
Summary

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- x Euroimmun, Fujirebio and Roche participated in the Round Robin with the objective to investigate consistency between the CRM-adjusted concentrations measured in pooled CSF samples using the different 1-42 company assays. The conclusion was that re-standardization was feasible and the bias between individual vendor assays minimal and committed to commercialized readjusted tests.
- x Finalized recalibration of tests or conversion factors, Fujirebio average test recovery of serum was 146% and calculated conversion factor of 0.46 on master calibration curve Euro

Round Robin 2 to address sampling handling issues in September 2019.

What is the difference that is acceptable in the field? Do they have a reference cohort that can confirm that they have met the target value that can be used for cut point determinations? All work together to address assay differences affecting data but an additional Round Robin is necessary

discussed whether the calibrators are the same within the companies. The lot variability? Do they have a reference cohort that can confirm that they have met the target value that can be used for cut point determinations? All work together to address assay differences affecting data but an additional Round Robin is necessary

Update on QC Program NFL – Kaj Blenow

x Total CV between labs 15.3% there is minimum batch-to-batch

- x A Commutability study is needed to verify that different analytical methods correlate, and at the same time to identify a candidate reference material. The workgroup plans to work on selecting one or more Reference Measurement Procedures (RMP), or reference methods, i.e. gold standard methods, as well as a Certified Reference Material that will have a value assigned by the RMPs. The standardization procedure also involves the identification, characterization and integration of a master collaborator
- x A workgroup was formed that that will perform a commutability study for 40 plasma and 40 sera, individual samples. They will measure individual samples with several assays (preliminary including three different versions of Simoa, MagQu, MSD, Elecsys and Olink), including several different methods.
- x For candidate CRM will test buffered plasma, serum, artificial plasma and buffer, that also will be spiked in with different types of spikes of purified bovine and recombinant NFL, as well as CSF (that contains much higher NFL levels than plasma)
- x It was suggested to also translate to CSF. This is to be completed. The group would need 3-4 liters of CSF.
- x If labs want to participate but do not have funding the Alzheimer's Association can have a conversation with the lab to discuss possibilities.
- x The members wanted to know if the West the stability of the analyte in serum vs plasma. It was stable in serum under different conditions; one was RT, 4°C and 80°C but can be less stable in plasma
- x There was an inquiry on whether they were measured NFL full length or truncated? The exact nature of serum/plasma NFL is currently uncertain.

Update on the Round Robin for Plasma NFL – Henrik Zetterberg

- x Optimized method for plasma NFL by immunoprecipitation MS/MS

x Conclusions were there ~~are~~

- x Some of the preanalytical factors that were surveyed and inventory results were shown. These included processing issues: time from collection to centrifuge, temperature during period from collection, storage issues, etc.
- x There were 16 responders, there was variation in time from collection to centrifugation and variation from centrifugation to freezing anticoagulant concentration, the temperature during various periods. The aliquot size differed and collection protocols had a huge variation. The needle size and location of draw did not vary either tube collection order
- x Priority voting was for anticoagulant type and concentration, tube type and additives, time from collection to centrifugation and time from centrifugation to freeze.
- x The WG will address the top 12 variables.
- x Next steps are to establish a central repository of mistreated samples. Focus on the top 12 identified preanalytical variables and focus will be on amyloid, NFL, p-tau, t-tau. Establish the repository in a few months, the IRB approval almost reached. Next, the WG will coordinate analysis and they aim to collect the datasets before the end of the year
- x Participation is welcomed, if interested email Charlotte Teunissen, c.teunissen@vumc.nl and Rebecca Edelmayr rmedelmayer@alz.org
- x There was question on the effect of proteases on the plasma samples?
- x MIRIADE international training network. Marie Curie program. The aim of the program is to train a novel generation of scientists to accelerate dementia biomarker development 15 PhD students will be hired: interested email MIRIADE@vumc.nl