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| NORMAN WG-2 Bioassays **Collaborative trial on bIoassays for NEUROtoxicity testing**Leader: RWTH Aachen University (Henner.Hollert@bio5.rwth-aachen.de; Jessica.Legradi@bio5.rwth-aachen.de; Andreas.Schiwy@rwth-aachen.de)**Objective**There are several bioassays available to test for neurotoxic activity and related mechanisms. The aim of this study is to compare the performance of different bioassays for neurotoxicity and related mechanisms for evaluation of chemical water quality. NORMAN members and organisations outside the network will be invited to participate. Individual compounds and a water sample will be produced by RWTH Aachen Universityand sent to the participants. Different types of bioassays will be used by the participants to test these samples (blindly) in the assay(s) in use at their laboratories. The results will be evaluated by RWTH AachenUniversity and disseminated to the participants and the NORMAN network. **Timeline**

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| 1.Invitation of participants | (RWTH Aachen) | July 2018 |
| 2. Preparation and distribution of samples | (RWTH Aachen) | September 2018 |
| 3. Test results reported to RWTH Aachen | (all participants) | November 2018 |
| 4. Dissemination of results to NORMAN network | (RWTH Aachen) | December 2018 |

**Activities**1.Invitation of participantsThe following invitation will be sent to NORMAN members: As one of the scientific activities of the NORMAN Joint Programme of Activities 2018, a collaborative trial to compare the performance of different bioassays for neurotoxicity is organised.The aim of this study is to compare the suitability of assays for evaluation of individual chemicals and water samples. Laboratories are invited to use their in-house methods to analyse the samples; these in-house methods will not be subject to restrictions. If your laboratory wishes toparticipate, the following procedure will be followed: * You will receive three samples from RWTH Aachen University in **September 2018**: (i) a stock concentration of a model compound, (ii) a representative polluted water sample, (iii) a vial with solvent (used for preparation of the former two samples). The samples can be frozen until analysis. We ask you to at least test three concentrations of the samples as delivered to you. You are welcome to additionally analyse more dilutions or concentrated samples.
* Your laboratory will test the samples blindly using the neurootoxicity assay(s) of your choice according to your own test protocols, including appropriate controls, and quality assurance procedures. Analysisand statistical evaluation of raw data should be performed by your laboratory. No financial compensation will be provided for these analyses; an in kind contribution of your laboratory is requested to this end. Final test results need to be reported to RWTH Aachen **end November 2018** ultimately, using a standardized templatethat will be distributed.
* RWTH AachenUniversity will evaluate the results and disseminate them to the NORMAN network by **December 2018**.
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| We intend to evaluate *qualitatively* which bioassays are responsive to a representative set of water pollutants and may thus be suitable for water quality monitoring, not to *quantitatively* compare the performance of each testing procedure. Quality and validity of the test results will not be checked by RWTH Aachen. The test results will be anonymized in the study report. Selected organisations outside of the NORMAN network will be invited to participate as well and will receive the study report upon participation. If you would like us to invite organisations from your own network, please let us know. We reserve the right to select participants (based on NORMAN membership and inclusion of the largest diversity of bioassays) or ask for a contribution to the shipping costs in case a number of organisationsdisproportionate to the budget would apply for participation.We kindly ask you to reply to this e-mail and return the following information to us at your earliest convenience, at the latest on **September14th**:* We will participate in the collaborative trial on bioassays for neurotoxicity testing: **YES** / **NO**If **YES**:
* We will apply the following assay(s):
* Our assay(s) requires the use of a specific solvent: **NO** / **YES**, i.e. ………………
* As a positive control we will use the following substance(s):
* The requested total volume per sample is (µl):
* We are able to process waste water samples: **YES** / **NO**
* Our contact person for receipt of the samples is (name, email, telephone):
* Our delivery address is:

2. Preparation and distribution of samplesRWTH AachenUniversity will prepare, code, and freeze the samples and send them to all participants in **End September 2018**, including instructions for testing and reporting. 3. Test results reported to RWTH Aachen UniversityThe participant will receive a template for reporting of the test results that includes the following information: * Tested samples and controls, including sample codes:
* Applied pretreatment and/or dilution, if applicable:
* Testing procedure, including specifications of assay(s) and test protocol according to (OECD) guidelines or published in peer reviewed literature, if applicable:
* Test result (per assay and per sample):

4. Dissemination of results to NORMAN networkThe report compiled by RWTH Aachen will provide an overview of positive and negative test results per assay. A joint manuscript for publication in an ISI-listed journal will be prepared in 2019. Kind regards, Henner Hollert (leader WG2 on bioassays) Jessica LegradiAndreas Schiwy |