Media Release

Roche receives FDA clearance for additional Alzheimer's disease Cerebrospinal Fluid (CSF) assays, supporting timely diagnosis and treatment decision-making

- **The Elecsys® tTau/Abeta42 ratio helps clinicians define Alzheimer's disease (AD) biologically and expands Roche's AD CSF portfolio to include biomarkers for all three main pathological processes of Alzheimer's: amyloid plaques, tau tangles and neurodegeneration.**
- **Confirmation of amyloid pathology via CSF FDA-cleared Alzheimer's biomarker testing or amyloid positron emission tomography (PET) is recommended in the appropriate use recommendations for new and emerging disease-modifying therapies (DMTs) shown to slow down cognitive decline when administered in early-disease stages.**
- **Scalable and economical, Elecsys AD CSF assays can be added to any of Roche's widely available cobas® fully automated immunoassay analyzers, giving patients broad access to high-quality testing in a timely manner.**

INDIANAPOLIS, June 27, 2023 - Roche (SIX: RO, ROG; OTCQX: RHHBY) today announced that its Elecsys® beta-Amyloid (1-42) CSF II (Abeta42) and Elecsys® Total-Tau CSF assays (tTau) have received U.S. Food and Drug Administration (FDA) 510(k) clearance. The Elecsys AD CSF Abeta42 and tTau assays (used as a tTau/Abeta42 ratio) measure two biomarkers of Alzheimer's pathology, beta-amyloid and tau proteins, in adults ages 55 and older being evaluated for the disease.

Currently, the diagnosis of Alzheimer's is largely one of exclusion (ruling out non-Alzheimer's causes of symptoms) based on a number of evaluations, including various cognitive exams, routine laboratory tests and neuroimaging with a head MRI or CT scan. Obtaining an accurate diagnosis can take years,[1] and one based on clinical criteria is reached only 70%-80% of the time.[2] Additional evaluations with biomarkers specific to Alzheimer's improve medical decisions, as they can identify underlying pathological changes early in the disease.

Roche's FDA-cleared Alzheimer's tests in the U.S. include two ratios comprising three assays. Both ratios include Abeta42. The Elecsys® beta-Amyloid (1-42) CSF II (Abeta42) and Elecsys® Phospho-Tau (181P) CSF (pTau181) assays (used as a pTau181/Abeta42 ratio) that received FDA 510(k) clearance in 2022 and Elecsys beta-Amyloid (1-42) CSF II and Elecsys Total-Tau CSF assays (the tTau/Abeta42 ratio) are reflective of the main Alzheimer's pathologies and help clinicians more completely define the disease biologically, facilitating a diagnosis of inclusion.

"With the increasing likelihood of broad availability of new, Alzheimer's disease–specific therapies, now is the time for healthcare professionals and institutions to prepare to meet the

demand for diagnostic methods to streamline and accelerate the path to the right treatment, at the right time, for people with Alzheimer's," said Brad Moore, president and CEO of Roche Diagnostics North America. "An early and accurate diagnosis can help patients, caregivers and physicians determine a path forward, and the Elecsys CSF assays support diagnosis at early disease stages, when treatment is most effective."

Progression of Alzheimer's occurs over a continuum with symptoms worsening over time. The Alzheimer's Association estimates that, each day, more than 2,000 people ages 65 and older may transition from mild dementia due to Alzheimer's to moderate dementia due to Alzheimer's.[3]

The appropriate use recommendations for new and emerging Alzheimer's medicines call for confirmation of amyloid pathology.[4] The only FDA-cleared methods to confirm amyloid pathology are CSF tests and PET scan imaging.

The Elecsys AD CSF assays are concordant with amyloid PET scan imaging[5] and have the potential to provide a more affordable and accessible routine option to confirm the presence of amyloid pathology in the brain. They also offer detection of both amyloid and tau biomarkers from one draw, with no radiation and potential to detect Alzheimer's pathology in early stages of disease.[6] The high cost, limited availability and patient exposure to radioactivity limit use and accessibility to PET. In addition, evaluating both amyloid and tau Alzheimer's biomarkers using PET requires multiple appointments and procedures, and increases radiation exposure.

The Elecsys pTau181/Abeta42 ratio is currently available. The new Elecsys tTau/Abeta42 ratio will be available in Q4 2023. Roche's Elecsys AD CSF assays are already registered in 46 countries worldwide, including those accepting the CE mark. In July 2022, Roche also announced that the FDA granted Breakthrough Device Designation to its Elecsys® Amyloid Plasma Panel, an innovative, minimally invasive and easily accessible solution that enables the measurement of Alzheimer's biomarkers from a blood sample. These assays are still in development, but once they are available, they could be used to streamline patients toward confirmation of amyloid pathology using the Elecsys AD CSF assays.

About the Elecsys® beta-Amyloid (1-42) CSF II (Abeta42) and Elecsys® Total-Tau CSF (tTau) assays

Alzheimer's disease's key features are accumulation in the brain of abnormal amyloid beta and tau proteins, followed by neurodegeneration. The Elecsys beta-Amyloid (1-42) CSF II and Total-Tau CSF assays accurately and reliably measure the beta-Amyloid (1-42) and Total-Tau concentrations in CSF in adult subjects, ages 55 and older, being evaluated for Alzheimer's disease and other causes of cognitive impairment to generate a tTau/Abeta42 ratio value. As changes in these biomarkers levels occur at early stages of the disease, the assays can detect Alzheimer's pathology in earlier stages of disease (e.g., mild cognitive impairment). Elecsys

tTau and Elecsys Abeta42 assays are both traceable to reference materials, ensuring accuracy of the tTau/Abeta42 ratio results.[7]

The ratio of these biomarkers (tTau/Abeta42) is consistent with a negative amyloid PET scan if the result is less than or equal to the cutoff (negative), and with a positive amyloid PET scan if the result is above the ratio cutoff (positive).

Abeta42 and tTau assays are intended to be used in addition to other clinical diagnostic evaluations to determine whether a person has Alzheimer's. A positive tTau/Abeta42 ratio result in CSF does not establish a diagnosis of Alzheimer's disease.

About Roche in Alzheimer's disease

With more than two decades of scientific research in Alzheimer's, Roche is working toward a day when we can detect the disease early and stop its progression to preserve what makes people who they are. Today, the company's Alzheimer's portfolio spans investigational medicines for different targets, types and stages of the disease. It also includes approved and investigational tools, including digital and blood-based tests and CSF assays, aiming to more effectively detect, diagnose and monitor the disease. Yet the global challenges of Alzheimer's go well beyond the capabilities of science, and making a meaningful impact requires collaboration both within the Alzheimer's community and outside of healthcare. We will continue to work together with numerous partners, with the hope we can transform millions of lives. Learn more about our commitment in the Alzheimer's space.

About Roche

Founded in 1896 in Basel, Switzerland, as one of the first industrial manufacturers of branded medicines, Roche has grown into the world's largest biotechnology company and the global leader in in-vitro diagnostics. The company pursues scientific excellence to discover and develop medicines and diagnostics for improving and saving the lives of people around the world. We are a pioneer in personalized healthcare and want to further transform how healthcare is delivered to have an even greater impact. To provide the best care for each person we partner with many stakeholders and combine our strengths in Diagnostics and Pharma with data insights from the clinical practice.

In recognizing our endeavor to pursue a long-term perspective in all we do, Roche has been named one of the most sustainable companies in the pharmaceuticals industry by the Dow Jones Sustainability Indices for the thirteenth consecutive year. This distinction also reflects our efforts to improve access to healthcare together with local partners in every country we work.

Genentech, in the United States, is a wholly owned member of the Roche Group. Roche is the majority shareholder in Chugai Pharmaceutical, Japan.

For more information, please visit www.roche.com.

All trademarks used or mentioned in this release are protected by law.

References

[1] van Vliet D, et. al, Time to diagnosis in young-onset dementia as compared with late-onset dementia. Psychol Med. 2013 Feb;43(2):423-32. doi: 10.1017/S0033291712001122. Epub 2012 May 28. PMID: 22640548. https://pubmed.ncbi.nlm.nih.gov/22640548/
[2] Sabbagh MN, Lue LF, Fayard D, Shi J. Increasing Precision of Clinical Diagnosis of Alzheimer's Disease Using a Combined Algorithm Incorporating Clinical and Novel Biomarker Data. Neurol Ther. 2017 Jul;6(Suppl 1):83-95. doi: 10.1007/s40120-017-0069-5.
[3] Alzheimer's Association. 2022, December 19. Final and Formal Request for Reconsideration of National Coverage Determination (NCD) for Monoclonal Antibodies Directed Against Amyloid for the Treatment of Alzheimer's Disease (CAG-00460N). https://alz.org/media/Documents/final-NCD-reconsideration-request.pdf, page 2, footnote 4.
[4] Cummings, J., Apostolova, L., Rabinovici, G.D., et al. Lecanemab: Appropriate Use Recommendations. J Prev Alzheimers Dis (2023).
[5] Elecsys®β-Amyloid (1-42) CSF II assay, Elecsys® Phospho-Tau (181P) CSF assay and Elecsys® Total-Tau CSF assay method sheets.
[6] Hampel H, et. al. Designing the next-generation clinical care pathway for Alzheimer's disease. Nat Aging. 2022 Aug;2(8):692-703. doi: 10.1038/s43587-022-00269-x. Epub 2022 Aug 19. PMID: 37118137; PMCID: PMC10148953.
[7] Elecsys®β-Amyloid (1-42) CSF II assay and Elecsys® Total-Tau CSF assay method sheets.

For Further Information
Roche Diagnostics U.S. Media Relations

Cindy Zinkovich
+1 (317) 931-8463
cindy.zinkovich@roche.com
us.mediarelations@roche.com