Category

Best Digital Health Solution

General Information

Company Name *

NeuraLight

Number of employees *

11-50

Turnover and/or Funding

Neuralight has raised $30.5 million across two venture funding rounds and generates revenue through paid commercial partnerships with pharmaceutical companies.

words remaining :

480

Product/Solution Name *

NeuraLight platform

Corporate Name *

NeuraLight Inc.

Date of Approval *

2021-02-24

Indications *

Parkinson's disease, ALS, Multiple sclerosis, Huntington's disease, Progressive supranuclear palsy (PSP), Multiple system atrophy (MSA)

words remaining :

485

Therapeutic Areas *

Digital biomarker for neurodegenerative diseases

words remaining :

495

*Kindly clearly label your files with company name and asset name.

Attached Files:

- NL One Pager.pdf

Background information and need for drug / device
(please be as specific as possible in your description; limit 500 words)

Monitoring disease progression in neurodegenerative diseases remains a significant challenge, despite recent advances in biomarker development. Traditional neuroimaging tools such as SPECT,

PET, and MRI offer some insight, but they are expensive, have limited repeatability, and require specialized infrastructure. Biochemical markers may provide diagnostic value, but they are invasive and currently lack quantitative capabilities for disease monitoring. Wearable technologies allow for continuous monitoring in real-world environments, but they primarily focus on specific symptoms rather than overall brain function or comprehensive patient status. They also face issues with long-term tolerability and lack robust validation.

In contrast, eye movement assessment offers a highly accessible, low-burden, and cost-effective alternative. The NeuraLight platform, already used in multiple clinical trials, requires only a standard laptop and webcam for a 10-minute session-ensuring both patient comfort and investigator convenience-while directly reflecting brain pathophysiology. Unlike most existing biomarkers, the NeuraLight platform does not depend on specialized hardware or invasive procedures and holds promise as a scalable biomarker solution across diverse populations and care settings.

Thanks to its standardized, quantitative, and objective nature, NeuraLight's biomarkers deliver more precise and sensitive outcomes. This allows for smaller sample sizes and shorter durations in drug trials. Such efficiency is particularly valuable in Phase 2 programs, which focus on detecting efficacy signals and optimizing drug and dosage selection in a translational approach.

With ease of use as a core principle, our platform leverages computer vision and machine learning to generate dozens of oculometric measures. These measures yield meaningful clinical insights across multiple dimensions of a patient's condition.

Endorsed by global clinical neurology leaders and Nobel laureates, NeuraLight is redefining brain function measurement to support the development of better treatments and improved outcomes for millions of patients.
NeuraLight has established partnerships with leading clinical centers, pharma companies and research foundations. As a result, our platform is actively used as an endpoint in multiple neuroprotective drug trials for Parkinson's and ALS. Our wide adoption is supported by strong clinical validation and peer-reviewed publications: large, longitudinal studies with top-tier institutions have shown that our biomarkers consistently outperform gold-standard clinical scales in tracking disease progression.
words remaining :
152

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- Band_2024.pdf

History of the development of the solution/product *
(please be as specific as possible in your description; 500 words)

1. Clinical Utility of Eye Movement Measures
Multiple studies have demonstrated that specific eye movement measures correlate with disease-relevant clinical and imaging benchmarks across neurodegenerative diseases. These include strong associations with MDS-UPDRS in Parkinson's, ALSFRS-R in ALS, and EDSS, NHPT, and SDMT in MS.

2. Translating CNS Knowledge into Digital Biomarkers
Building on the well-established role of oculomotor function in CNS pathophysiology, NeuraLight developed software-based digital biomarkers that quantify brain function via eye movements. We

extract our robust digital biomarkers from the well established disease specific eye movements measures.

3. Validation via large longitudinal studies in Healthy subjects
We validated the NeuraLight biomarkers robustness and ease of use in a large longitudinal cohort of over 3000 healthy subjects.

4. Validation via Cross-Sectional Studies in CNS patients
We validated the NeuraLight biomarkers in disease-specific cross-sectional studies, replicating known correlations between eye movement abnormalities and gold-standard clinical outcomes across Parkinson's, ALS, and MS.

5. Indication-Specific Longitudinal POC Trials
To assess disease progression sensitivity, we conducted proof-of-concept longitudinal studies. In Parkinson's, for example, our biomarkers detected statistically significant decline over time where traditional scales (e.g., MDS-UPDRS III) remained static.

5. Multicenter Validation of Progression Monitoring
Following POC trials, we executed multicenter studies confirming that NeuraLight biomarkers reliably monitor disease progression, consistently replicating our POC findings at larger scale and across clinical settings.

6. First-of-Its-Kind Platform for CNS Progression Monitoring
The NeuraLight platform establishes a novel, scalable, and validated digital biomarker for CNS disease progression-translating decades of oculomotor neuroscience into a practical, non-invasive clinical tool.
words remaining :
249

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Attached Files:

- Compendium 2204.pdf

Why this drug or device is innovative, the broad implications for future research, and/or how it will improve the human condition *

NeuraLight's biomarkers represent a fundamental leap in the way neurodegenerative diseases are monitored. Traditional tools are either invasive, subjective, costly, or lack sensitivity to disease progression. In contrast, NeuraLight's software-only biomarkers are:
- Quantitative and objective
- Sensitive to small changes in brain function, even before clinical symptoms or scores shift
- Built on deep oculomotor science, targeting well-validated CNS pathways
- Non-invasive and require only a webcam and standard laptop

This is the first scalable digital biomarker platform that operationalizes decades of oculomotor research into a real-time, deployable clinical tool for monitoring disease progression across multiple neurological conditions.

Broad Implications for Future Research
The implications of NeuraLight's biomarkers on neurology and research are significant:
- They enable shorter, more efficient clinical trials by reducing sample sizes and duration through more sensitive progression markers

- Support early-phase drug screening, where detecting subtle changes is critical
- Makes longitudinal studies more inclusive and scalable

For patients, NeuraLight offers a future where brain health can be monitored easily and more frequently. This empowers:
- More personalized treatment adjustments, based on objective progression trends
- Faster development of effective therapies, as pharmaceutical companies gain better tools to measure outcomes

Ultimately, NeuraLight addresses a long-standing unmet need in neurology: accurate, scalable, and real-time monitoring of disease progression. By enabling better science and better care, it brings us closer to a world where neurodegenerative diseases are diagnosed earlier, treated smarter, and understood more deeply.

words remaining :

261

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Attached Files:

- Innovation_Impact.pdf

Please provide appropriate references (PubMed, Abstract, Website) *

Website - neuralight.ai

List of peer-reviewed publications (ordered by year)

2022
Rosset I, Raveh E, Ben-Shimon A, Anisimov V, Ben-Ami E, Kreitman R. Validation of a novel software-based platform to extract oculometric measures. Acta Ophthalmol. 2022;100. doi:10.1111/j.1755-3768.2022.0359

2023
Raveh E, Ben-Shimon A, Anisimov V, Kreitman R, Ben-Ami E, Drory VE. Correlation between oculometric measures and clinical assessment in ALS patients participating in a phase IIb clinical drug trial. Amyotroph Lateral Scler Front Degener. 2023;24(5-6):495-501. doi:10.1080/21678421.2023.2196315
Reiner J, Franken L, Raveh E, Rosset I, Kreitman R, Ben-Ami E. Oculometric measures as a tool for assessment of clinical symptoms and severity of Parkinson's disease. J Neural Transm. 2023;130:1241-1248. doi:10.1007/s00702-023-02681-y
Drory VE, Raveh E, Ben-Shimon A, Anisimov V, Kreitman R, Ben-Ami E. Correlation between oculometric measures and clinical assessment in ALS patients participating in a phase IIB clinical drug trial [abstract]. J Neurol Sci. 2023;455.

2024
Berkman O, Raveh E, Harpaz E, Kreitman R, Ben-Ami E, Nechushtan E, Drory VE. Changes in saccadic intrusions over time as an objective biomarker to follow ALS disease progression. Amyotroph Lateral Scler Frontotemporal Degener. 2024:1-7. doi:10.1080/21678421.2024.2376732
Harpaz E, Raveh E, Kreitman R, Ben-Ami E. Video-based gaze detection for oculomotor abnormality measurements. Appl Sci. 2024;14(4):1519. doi:10.3390/app14041519
Band TG, Raveh E, Harpaz E, Kreitman R, Ben-Ami E. Advancements in eye movement measurement technologies for assessing neurodegenerative diseases. Front Digit Health. 2024;6:1423790. doi:10.3389/fdgth.2024.1423790

Djaldetti R, Raveh E, Reiner J, Franken L, Harpaz E, Kreitman R, Ben-Ami E. Differences in oculometric measures between patients with LRRK2-associated and idiopathic Parkinson's disease [abstract]. Mov Disord. 2024;39(suppl 1).
Tosin M, Raveh E, Harpaz E, Kreitman R, Ben-Ami E. Evaluating cognitive status in Parkinson's disease using a software-based eye-tracking platform: preliminary results of the PALOMA clinical trial [abstract]. Mov Disord. 2024;39(suppl 1).
Levy S, Katz Sand I, Berkman O, Raveh E, Ben-Ami E, Kreitman R, Sumowski JF. Correlations between traditional disability and oculometric measures in multiple sclerosis (P6-6.010) [abstract]. Neurology. 2024 Apr 14;102(17 suppl 1):6381.
Rabkin S, Levy S, Raveh E, Ben-Ami E. Machine learning model for EDSS prediction using nationwide data from the Danish MS registry [poster]. Presented at: ECTRIMS 2024; Mult Scler J. 2024;30(3 suppl):125-680. doi:10.1177/13524585241269219

2025
Gurevich T, Raveh E, Kreitman R, Ben-Ami E. Monitoring Parkinson's progression: eye movements vs. MDS-UPDRS III [abstract]. Parkinsonism & Related Disorders, Volume 134, 107389.
Levy S, Katz Sand IB, Berkman O, Raveh E, Ben-Ami E, Kreitman R, Sumowski JF. Correlations between oculometric measures and traditional clinical assessments in multiple sclerosis. Mult Scler Relat Disord. 2025;94:106265. doi:10.1016/j.msard.2025.106265
Ben-Ami E, Raveh E, Harpaz E, Riklin I, Armstrong R, Januario C, Gurevich T, Alcalay R, Mir P, Tosin MHS, Goetz C, Rascol O. Saccadic hypometria to monitor Parkinson's disease progression: Validation across multiple trials. Under review.

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