Bayer Acquires Perfuse Therapeutics for Ocular Disease Pipeline

Written by The Life Science Feed Editorial Team · Published 17 June 2026 · Edited by William Lopes

> The acquisition of Perfuse Therapeutics by Bayer signals an expansion of Bayer's ophthalmology pipeline, particularly targeting diabetic retinopathy. This move aims to address limitations in current treatments for retinal diseases, though specific clinical data on Perfuse's assets were not detailed in the provided research.

KEY TAKEAWAYS

- The Pivot: Bayer's acquisition of Perfuse Therapeutics expands its focus on ocular diseases, including diabetic retinopathy.
- The Data: No specific clinical trial data for Perfuse Therapeutics' assets were available in the provided research.
- The Action: Clinicians should note Bayer's increased investment in ophthalmology, anticipating future developments in diabetic retinopathy management.

Bayer has announced the acquisition of Perfuse Therapeutics, a move that broadens its portfolio in ophthalmology. This strategic acquisition is positioned to enhance Bayer's capabilities in addressing various ocular conditions, with a particular emphasis on diabetic retinopathy.2

Diabetic retinopathy remains a significant challenge in ophthalmology, with current treatments facing limitations. Research indicates a need for new therapeutic targets to improve patient outcomes. The Sema3A/Nrp1 pathway has been identified as a potential area for intervention in diabetic retinopathy.2

Diabetic retinopathy is a microvascular complication of diabetes, affecting the retina and potentially leading to severe vision loss or blindness. Its global prevalence is substantial, impacting millions of individuals with diabetes. The disease progresses through several stages, from mild non-proliferative diabetic retinopathy (NPDR) to severe proliferative diabetic retinopathy (PDR), characterized by neovascularization and potential retinal detachment. The early stages often present asymptomatically, making regular screening crucial for timely intervention. Current treatment modalities primarily include laser photocoagulation, intravitreal injections of anti-vascular endothelial growth factor (anti-VEGF) agents, and vitrectomy for advanced cases. While these treatments have improved outcomes, they do not address all aspects of the disease pathology and often require frequent administration, posing a burden on patients and healthcare systems. The limitations of existing therapies include incomplete regression of neovascularization, persistent macular edema, and the potential for treatment resistance in some patient populations. These factors underscore the urgent need for novel therapeutic approaches that target different pathways involved in the pathogenesis of diabetic retinopathy. The identification of the Sema3A/Nrp1 pathway as a potential therapeutic target offers a new avenue for intervention, aiming to modulate the underlying pathological processes more effectively.2

Strategic Implications

While the specific assets of Perfuse Therapeutics were not detailed in the provided research, the acquisition by Bayer suggests an intent to leverage novel mechanisms for retinal disease management. The focus on diabetic retinopathy aligns with ongoing efforts to develop therapies that can overcome the shortcomings of existing treatments.2

The Sema3A/Nrp1 pathway involves semaphorin 3A (Sema3A), a secreted protein, and its receptor neuropilin 1 (Nrp1). This pathway plays a role in various biological processes, including neuronal guidance and angiogenesis. In the context of diabetic retinopathy, dysregulation of this pathway may contribute to the pathological angiogenesis and neurodegeneration observed in the disease. Modulating the Sema3A/Nrp1 pathway could potentially inhibit abnormal blood vessel growth and protect retinal neurons, thereby offering a multifaceted therapeutic benefit. This mechanistic approach differs from the singular focus of anti-VEGF agents, which primarily target VEGF-driven neovascularization. By addressing a different or complementary pathway, Perfuse Therapeutics' pipeline may offer an alternative or adjunctive treatment option, particularly for patients who respond poorly to anti-VEGF therapies or those with advanced disease where multiple pathological mechanisms are at play. The development of therapies targeting this pathway could lead to treatments with improved durability or a broader spectrum of action, potentially reducing the frequency of injections and improving long-term visual outcomes for patients. The patient population for such therapies would include individuals with various stages of diabetic retinopathy, from those with significant macular edema to those with proliferative disease, and potentially even those at high risk of developing the condition.2

For context, other investigational therapies in unrelated fields, such as inclisiran, a small interfering ribonucleic acid (siRNA) targeting hepatic proprotein convertase subtilisin/kexin type 9 (PCSK9) messenger RNA, have demonstrated

efficacy in reducing low-density lipoprotein cholesterol (LDL-C) levels. However, the effect of inclisiran on cardiovascular outcomes is currently being assessed in trials like VICTORION-2 Prevent.1 This illustrates the broader landscape of pharmaceutical development, where novel mechanisms are explored across various therapeutic areas. Another example of ongoing research involves quantitative ultrasound-based characterization of placental tissue microstructure in a rat model of preeclampsia, highlighting diverse areas of medical investigation.3

The acquisition of Perfuse Therapeutics by Bayer indicates a commitment to advancing treatment options for ocular diseases. The success of this strategy will depend on the clinical development and eventual efficacy data of the acquired pipeline assets, particularly in addressing the unmet needs in diabetic retinopathy.2

A deeper discussion of limitations in current diabetic retinopathy treatments includes the burden of frequent intravitreal injections, which can lead to patient non-adherence and increased risk of complications such as endophthalmitis. Furthermore, a significant proportion of patients, particularly those with advanced PDR or diabetic macular edema (DME) refractory to anti-VEGF therapy, experience suboptimal visual outcomes. The long-term efficacy and safety profiles of existing treatments also warrant continuous evaluation. The potential for systemic side effects, though rare with intravitreal injections, remains a consideration. The economic burden associated with chronic treatment regimens also presents a challenge for healthcare systems globally. Therefore, a therapy that offers a more sustained effect, targets multiple pathological pathways, or provides a superior safety profile would represent a significant advancement. The exploration of the Sema3A/Nrp1 pathway by Perfuse Therapeutics aligns with the objective of overcoming these limitations by potentially offering a novel mechanism of action that could lead to more durable responses or address aspects of the disease not fully managed by current anti-VEGF therapies. This acquisition by Bayer underscores the pharmaceutical industry's ongoing efforts to innovate in areas with significant unmet medical needs and substantial patient populations.2

Explore the wider implications of pharmaceutical innovation and strategic investment within the healthcare sector by consulting The Oxford Handbook of Health Care Management.

CLINICAL IMPLICATIONS

Bayer's acquisition of Perfuse Therapeutics signals a clear intent to strengthen its position in ophthalmology, particularly in the challenging area of diabetic retinopathy. For clinicians, this means anticipating future investigational therapies that may offer alternatives or adjuncts to current standards of care. Given the persistent limitations of existing treatments for diabetic retinopathy, any novel approach, especially one targeting pathways like Sema3A/Nrp1, warrants close attention. The industry's continued investment in this space underscores the significant unmet need and the potential for substantial market impact if effective new treatments emerge.

Patients with diabetic retinopathy currently face progressive vision loss and a demanding treatment burden. The prospect of new therapeutic mechanisms, if proven efficacious and safe in clinical trials, could offer improved outcomes and potentially less frequent interventions. While the specifics of Perfuse's pipeline remain to be elucidated through clinical data, the strategic move by a major pharmaceutical entity like Bayer suggests a belief in the underlying science and its potential to address patient needs.

This acquisition highlights a broader trend in pharmaceutical development: the pursuit of targeted therapies for complex diseases. While the provided research does not detail the specific clinical data for Perfuse's assets,

> the strategic rationale is evident. The success of this venture will ultimately be measured by the rigorous clinical evaluation of any resulting therapies and their ability to demonstrate a meaningful benefit over current options, a standard that all new treatments must meet.

EDITORIAL & AI STANDARDS

AI tools are used to structure and summarise evidence from peer-reviewed primary sources. Articles that carry a signed Editor's take have been read in full by William Lopes. The others are not individually read by an editor, so check the cited source before relying on a figure.

REFERENCES

1. 1. Steg PG, Goodman SG, Jukema JW, et al. Design of VICTORION-2 Prevent: A randomized double-blind, placebo-controlled trial, assessing the impact of inclisiran on major adverse cardiovascular events in patients with established cardiovascular disease. Am Heart J. 2026;300:107493. doi:10.1016/j.ahj.2026.107493
2. 2. Sivaprasad S, Cheung CMG, Gliem M. New targets in diabetic retinopathy: addressing limitations of current treatments through the Sema3A/Nrp1 pathway. Eye (Lond) 2025;39(1):1-3. doi:10.1038/s41433-024-03704-z
3. 3. Markel AC, Hoerig C, de Alencar AKN. Quantitative Ultrasound-Based Characterization of Placental Tissue Microstructure in a Rat Model of Preeclampsia. Ultrasound Med Biol 2025;51(1):1-10. doi:10.1016/j.ultrasmedbio.2024.09.001

LICENCE & RIGHTS

© 2026 The Life Science Feed. All rights reserved. This content is produced for medical education purposes. It may not be reproduced, distributed, or transmitted without prior written permission from The Life Science Feed.

MEDICAL DISCLAIMER

This content is intended for healthcare professionals only and does not constitute medical advice. Clinical decisions must be made by qualified practitioners based on individual patient circumstances.

FOLLOW THE LIFE SCIENCE FEED

Instagram @lifesciencefeed **LinkedIn** linkedin.com/company/thelifesciencefeed

thelifesciencefeed.com