What is birtamimab?

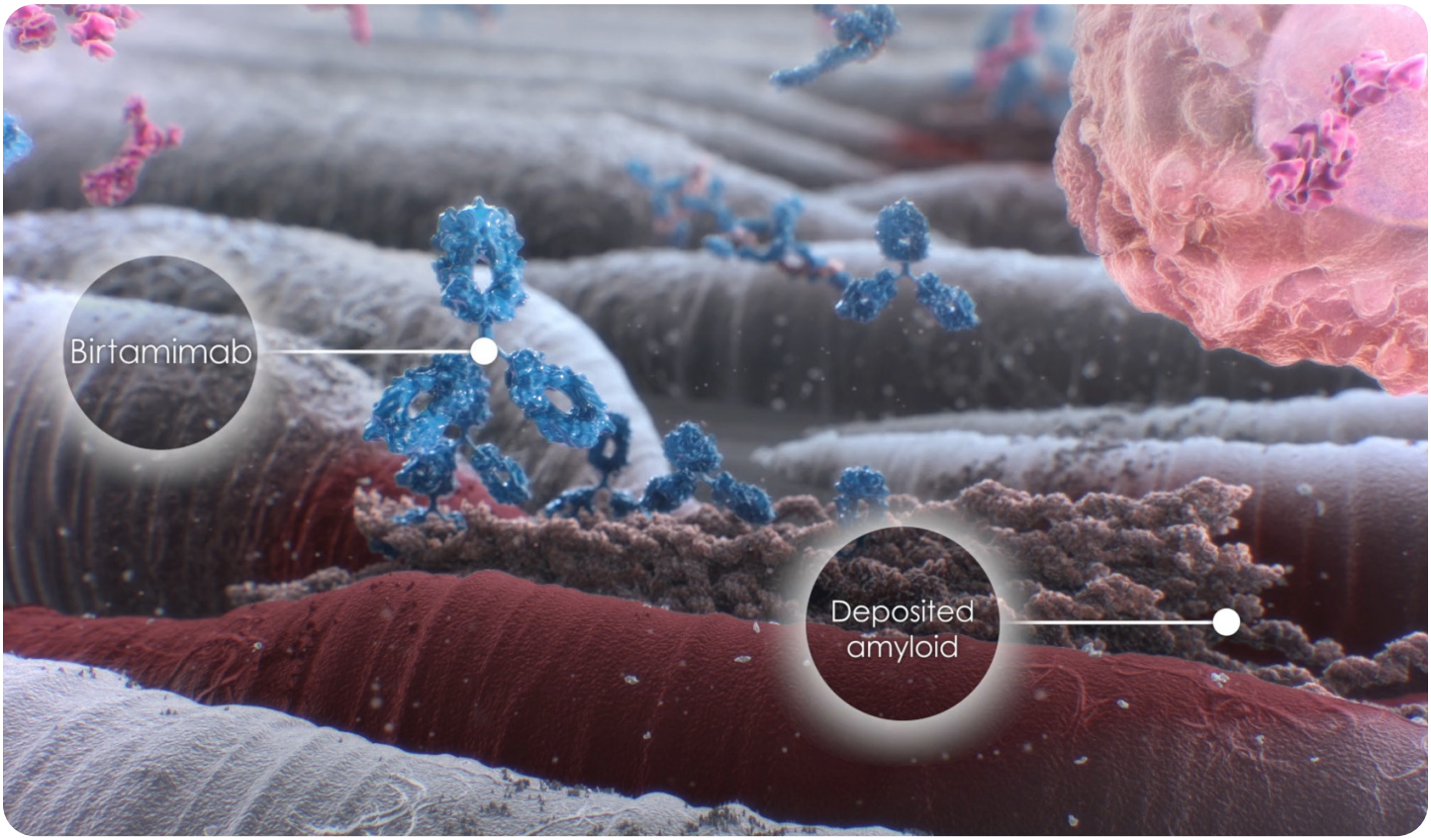
Birtamimab is an investigational drug being studied in a confirmatory Phase 3 clinical trial for the potential treatment of patients with Mayo Stage IV AL amyloidosis. Birtamimab is being developed by Prothena, a late-stage clinical biotechnology company with a robust pipeline of investigational therapeutics built on protein dysregulation expertise. Birtamimab is a humanized monoclonal antibody designed to specifically and selectively target and clear the misfolded amyloid that accumulates and causes organ dysfunction and failure in patients with AL amyloidosis.

What is AL amyloidosis?

AL amyloidosis is a rare, progressive and often fatal disease which causes plasma cells to produce light chains that misfold. When these proteins misfold, they form toxic foreign substance aggregates (or amyloids) that cannot be dissolved by the body. The amyloids deposit in one or more vital organs, such as the heart and kidneys. The foreign deposits prevent the organs from functioning normally. The damage can lead to organ failure.

People living with AL amyloidosis can experience a wide range of symptoms, depending on where in the body the amyloid builds up. Common symptoms include fatigue (or tiredness), shortness of breath, or edema (swelling in the arms and legs).

Currently available treatments target plasma cells to reduce the production of new misfolding light chain proteins, but these therapies do not remove the circulating cytotoxic amyloid and the amyloid being deposited in the vital organs. Finding a way to eliminate existing amyloids represents a significant unmet medical need in AL amyloidosis – one that Prothena is working to address.



How does birtamimab work?

Birtamimab works to specifically and selectively target and clear deposited amyloid from organs and neutralize soluble cytotoxic aggregates that circulate in the bloodstream. Birtamimab has been shown to broadly react with a "cryptic" epitope that is exposed only on misfolded kappa and lambda light chains and has a potential best-in-class depleter mechanism designed to clear pathogenic light chain amyloid.

Following the late-stage clinical trial of birtamimab (VITAL), Prothena conducted a post-hoc analysis that signaled a possible positive survival effect with birtamimab plus standard of care in a subgroup of patients at high risk for early death, an advanced disease stage classified as Mayo Stage IV, now being confirmed in the AFFIRM-AL clinical trial.

Worldwide, it is estimated that about

60,000 – 120,000

patients are living with Mayo Stage IV AL amyloidosis[1]

23-30%

of AL amyloidosis patients are in Mayo Stage IV[2,3]

How is birtamimab being investigated?

AFFIRM-AL is a clinical trial evaluating birtamimab for the treatment of adults newly diagnosed with Mayo Stage IV AL amyloidosis. The trial has been developed under a special protocol assessment (SPA) agreement with the U.S. Food and Drug Administration (FDA) with a primary endpoint of time to all-cause mortality at a significance level of 0.10.

Birtamimab has been tested in over 300 patients with AL amyloidosis at the intended clinical dose of 24 mg/kg and was shown to be generally well tolerated in the clinical studies conducted to date.[4]

Birtamimab is under investigation and is not approved by any regulatory agency.

For more information about the clinical trial visit: https://affirm-al.com or https://clinicaltrials.gov/study/NCT04973137

References

[1] Prothena Data on File

[2] Kumar S, et al. Revised prognostic staging system for light chain amyloidosis incorporating cardiac biomarkers and serum free light chain measurements. J Clin Oncol. 2012 Mar 20;30(9):989-95. doi: 10.1200/JCO.2011.38.5724.

[3] Gertz MA, et al. Birtamimab plus standard of care in light-chain amyloidosis: the phase 3 randomized placebo-controlled VITAL trial. Blood. 2023 June; 142(14):1208–1218. doi: 10.1182/blood.2022019406.

[4] Gertz MA, et al. Pooled Analysis of Safety From Birtamimab Phase 1-3 Studies in Patients With Light Chain (AL) Amyloidosis. Presented at the American Society of Hematology (ASH) Annual Meeting and Exposition; December 9-11, 2023. San Diego, CA.