Brand Name: Gazyva
Generic: obinutuzumab
Type: monoclonal antibody
Year Accepted/Phase: 2013

Mechanism:

Obinutuzumab is a glycoengineered Type II anti-CD20 monoclonal antibody. It binds to the CD20 antigen on B-cells, leading to direct cell death and enhanced antibody-dependent cellular cytotoxicity (ADCC), resulting in the destruction of malignant B-cells.

Chemical Structure: N/A

Indication:

Gazyva is indicated for the treatment of patients with previously untreated chronic lymphocytic leukemia (CLL) in combination with chlorambucil, and for patients with follicular lymphoma (FL) who have relapsed or are refractory to a rituximab-containing regimen. It is also used in combination with chemotherapy for first-line treatment of follicular lymphoma and in combination with ibrutinib for CLL.

Clinical trials:

CLL11 Trial (Phase III)

Pubmed: https://pubmed.ncbi.nlm.nih.gov/24401022/
Purpose: Compare the efficacy and safety of obinutuzumab combined with chlorambucil versus rituximab combined with chlorambucil and chlorambucil alone in patients with previously untreated chronic lymphocytic leukemia (CLL).
Dates: Results published in 2014.
Results: The trial showed that obinutuzumab combined with chlorambucil significantly improved progression-free survival (PFS) compared to rituximab combined with chlorambucil and chlorambucil alone. The median PFS was 26.7 months for the obinutuzumab-chlorambucil group compared to 15.2 months for the rituximab-chlorambucil group. These results led to the FDA approval of Gazyva for CLL in November 2013.

GADOLIN Trial (Phase III)

Pubmed: https://pubmed.ncbi.nlm.nih.gov/27345636/
Purpose: Evaluate the efficacy and safety of obinutuzumab in combination with bendamustine followed by obinutuzumab monotherapy versus bendamustine alone in patients with rituximab-refractory indolent non-Hodgkin lymphoma (iNHL), including follicular lymphoma (FL).
Dates: Results published in 2016.
Results: The combination of obinutuzumab and bendamustine followed by obinutuzumab maintenance significantly improved PFS compared to bendamustine alone. The median PFS was not reached for the obinutuzumab group compared to 14.9 months for the bendamustine group. This led to the FDA approval of Gazyva for follicular lymphoma in February 2016.

GALLIUM Trial (Phase III)

Pubmed: https://pubmed.ncbi.nlm.nih.gov/28976863/
Purpose: Compare the efficacy and safety of obinutuzumab versus rituximab in combination with chemotherapy, followed by maintenance therapy in patients with previously untreated advanced follicular lymphoma (FL).
Dates: Results published in 2017.
Results: The trial demonstrated that obinutuzumab combined with chemotherapy and followed by maintenance therapy significantly improved PFS compared to rituximab combined with chemotherapy and maintenance therapy. The risk of disease progression or death was reduced by 34% in the obinutuzumab group. These findings reinforced the use of Gazyva in the first-line treatment of follicular lymphoma.

iLLUMINATE Trial (Phase III)
Pubmed: https://pubmed.ncbi.nlm.nih.gov/30522969/
Purpose: Evaluate the efficacy and safety of obinutuzumab in combination with ibrutinib versus obinutuzumab combined with chlorambucil in patients with previously untreated CLL.
Dates: Results published in 2019.
Results: The combination of obinutuzumab and ibrutinib significantly improved PFS compared to obinutuzumab and chlorambucil. The 30-month PFS rate was 79% for the obinutuzumab-ibrutinib group versus 31% for the obinutuzumab-chlorambucil group. These results supported the use of Gazyva in combination with ibrutinib for CLL.