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Frontier Pharma: Innovative Licensing Opportunities in Non-Hodgkin Lymphoma

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Summary

Non-Hodgkin Lymphoma (NHL) can be seen as a collection of up to 60 smaller subtypes of malignant lymphoid disease, defined by distinct morphological, cytogenetic and immunophenotypic characteristics that can be broadly classified as either indolent or aggressive disease. The slow growing nature of the former means that first-line treatment for diagnosed patients can be delayed, an option not commonly recommended for aggressive disease. Across both indolent and aggressive disease, first-line chemotherapy in combination with the blockbuster drug rituxumab can induce high rates of response, and prolonged durations of remission. Despite this, indolent disease is typically incurable, with the most aggressive lymphoma subtype - diffuse large B-cell lymphoma having 5-year survival rates of ~50%. Re-treatment with chemotherapy can induce second and subsequent remissions, but most NHL patients develop chemotherapy resistant disease, for whom there are limited treatment options. Overall, in terms of numbers small molecule chemotherapeutic agents dominate the current market, with a clear need for novel targeted therapies to prolong durations of remission, and provide options for patients with chemo resistant, heavily pretreated disease.

The current developmental pipeline addresses these gaps in the market, dominated by cancer immunotherapies and inhibitors of cancer-associated signal transduction. Pathways of significant interest include B-cell receptor signaling, the PI3K/Akt/mTOR pathway, and Wnt/ β -catenin signaling, as well as oncogenes such as BCL-6 and BCL-2. Characteristic cell surface molecules that represent targets for cancer immunotherapies include CD19, LMP-1/2 and CD20, with several pipeline drugs already approved for CD20. First-in-class drug development in NHL corresponds strongly to these known somatic mutations and affected pathways. Clinical results of drugs against profiled targets in this report show many are being investigated in relapsed disease.

Scope

There are 666 marketed products for NHL, 95% of which are small molecules -

- What are the dominant mechanisms of action across marketed products?

The treatment of lymphoma is dominated by the use of combination cyclophosphamide based chemotherapy in combination with rituximab -

- What are these chemotherapy regimens?

- How did they perform in key clinical trials?

The variation in molecule type has shifted away from small molecules, whose dominance has decreased to 46% across the pipeline -

- What are the dynamics of the remaining 54% of the pipeline?

- How does this reflect the need for novel targeted therapies?

There is a significant shift away from cytotoxic agents, with the current pipeline dominated by cancer immunotherapies and signal transduction inhibitors -

- What is the scientific rationale behind these mechanisms of action?

- How successful have approved targeted therapies been?

Profiled first-in-class therapies include: PIK3CA, EZH2, CD40 and MDM2 -

- What is the scientific rationale behind these targets?

- What preclinical and clinical results are available for drugs against these targets?

- What is the overall opinion on these targets for drug development across NHL?

Reasons to buy

This report will allow you to -

- Understand the current clinical and commercial landscape. This includes a comprehensive study of disease pathogenesis, diagnosis, prognosis and the available treatment options available at each stage of diagnosis.

- Visualize the composition of the NHL market in terms of dominant molecule types and targets, highlighting what the current unmet needs are and how they can be addressed. This knowledge allows a competitive understanding of gaps in the current market.

- Analyze the NHL pipeline, and stratify by stage of development, molecule type and molecular target. There are promising signs in focussed on the development of targeted therapies for this disease.

- Visualize the clinical safety and efficacy of drugs against first-in-class targets via a detailed heat map, outlining the results across major clinical trial endpoints.

- Identify commercial opportunities in the NHL deals landscape by analyzing trends in licensing and co-development deals, and those first-in-class drugs which are yet to be involved in a strategic alliance.

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