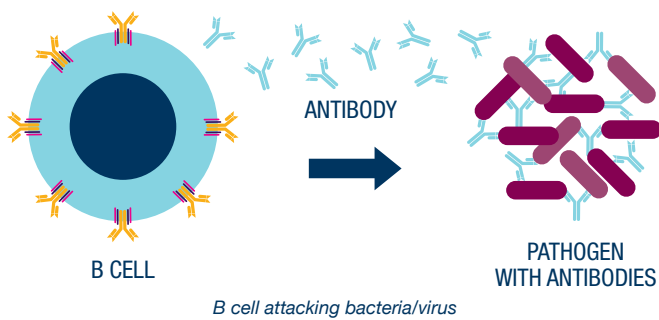


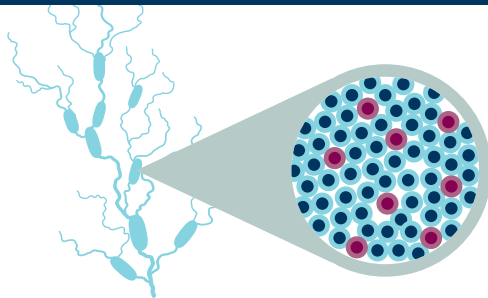
# THE ROLE OF BTK INHIBITION TO DISRUPT CANCEROUS B CELL FUNCTION

## Normal B cells and the immune system



B cells play an essential role in the immune system. These lymphocytes, a type of white blood cell, produce antibodies that attack invading pathogens such as bacteria, viruses and toxins.<sup>1</sup>

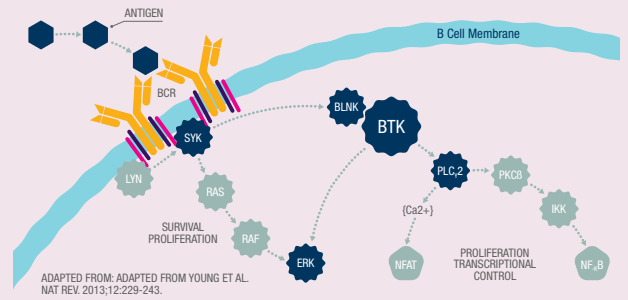
## B cells and cancer



*Cancerous B cells crowding out normal B cells in a lymph node*

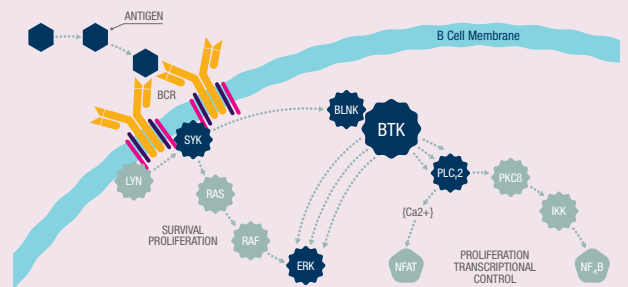
When B cells become cancerous, such as in mantle cell lymphoma (MCL), some normal cell processes aren't regulated properly, resulting in increased production of B cells. The excess B cells crowd out the normal cells in the bone marrow and lymph nodes.<sup>2,3</sup>

## Normal B cell and BTK



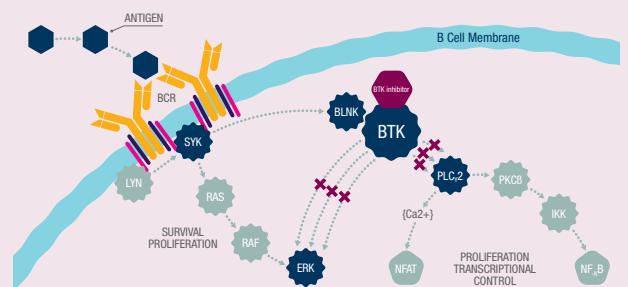
B cells contain an enzyme (or kinase), called the Bruton tyrosine kinase (BTK), that plays a key role in B-cell receptor signaling. This signaling regulates the development, function and survival of B cells.<sup>4,5</sup>

## BTK Expression



BTK expression has been reported to be higher in certain B-cell malignancies compared to normal B cells, which may allow cancerous B cells to grow and multiply.<sup>6</sup>

## BTK Inhibition



BTK inhibition has been shown to reduce the growth and cell survival among cancerous B cells *in vitro*.<sup>7</sup>

## References

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