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Nuclear protein could hold key to cancer progression

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Researchers at the Medical Research Council (MRC) have identified that a key protein called germinal center-associated nuclear protein (GANP) could shed light on how cancers of the immune system such as lymphomas develop.

The study, published in *Current Biology* this week, found that in healthy cells, GANP is essential for acting as a courier for molecules known as mRNAs, carrying them away from the nucleus of a cell to where they can be converted into working proteins. Proteins are an important component of every cell in our bodies and are used to make and repair tissues, hormones and other body chemicals.

By removing GANP, this process, known as mRNA export, becomes severely disrupted and results in a build-up of mRNAs within the nucleus, disrupting the production of proteins which carry out specific functions in the cell.

As lymphomas also show an increase in GANP levels, the study suggests that there could be a previously unrecognized connection between mRNA export and cancer progression.

Commenting on the findings, lead researcher Dr Vihandha Wickramasinghe of the MRC Cancer Cell Unit in Cambridge said, "Working out how the GANP protein functions in mammals is an important step in identifying its potential role in cancer. Our results suggest that this process, known as mRNA export, may be involved in cancer development and progression. We hope that this work will lead to further insights into this disease and ultimately contribute to the creation of new cancer therapies."



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