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JNCASR develops diagnostic therapy for lung cancer

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A patent application has been already filed for this invention



Recently researchers from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru, have developed a theranostics (diagnostic therapy) drug candidate for lung cancer.

The research work funded jointly by DST, BRICS Multilateral R&D Projects grant, and SwarnaJayanti Fellowship Grant was published in the journal *Theranostics*.

The selective recognition and imaging of oncogene specific non-canonical DNA secondary structures (G-quadruplex-GQ structures) holds great promise in the development of diagnostic therapy (theranostics) for cancer and has been challenging due to their structural dynamics and diversity.

Prof. T. Govindaraju, along with his team from JNCASR, developed a small molecule for selective recognition of BCL-2 GQ through unique hybrid loop stacking and groove binding mode with turn on far-red fluorescence response and anticancer activity demonstrating the potential as GQ-targeted lung cancer theranostics.

This methodology can be further exploited to develop cancer-type specific theranostic drugs with tremendous implications in personalized medicine. A patent application has been already filed for this invention.