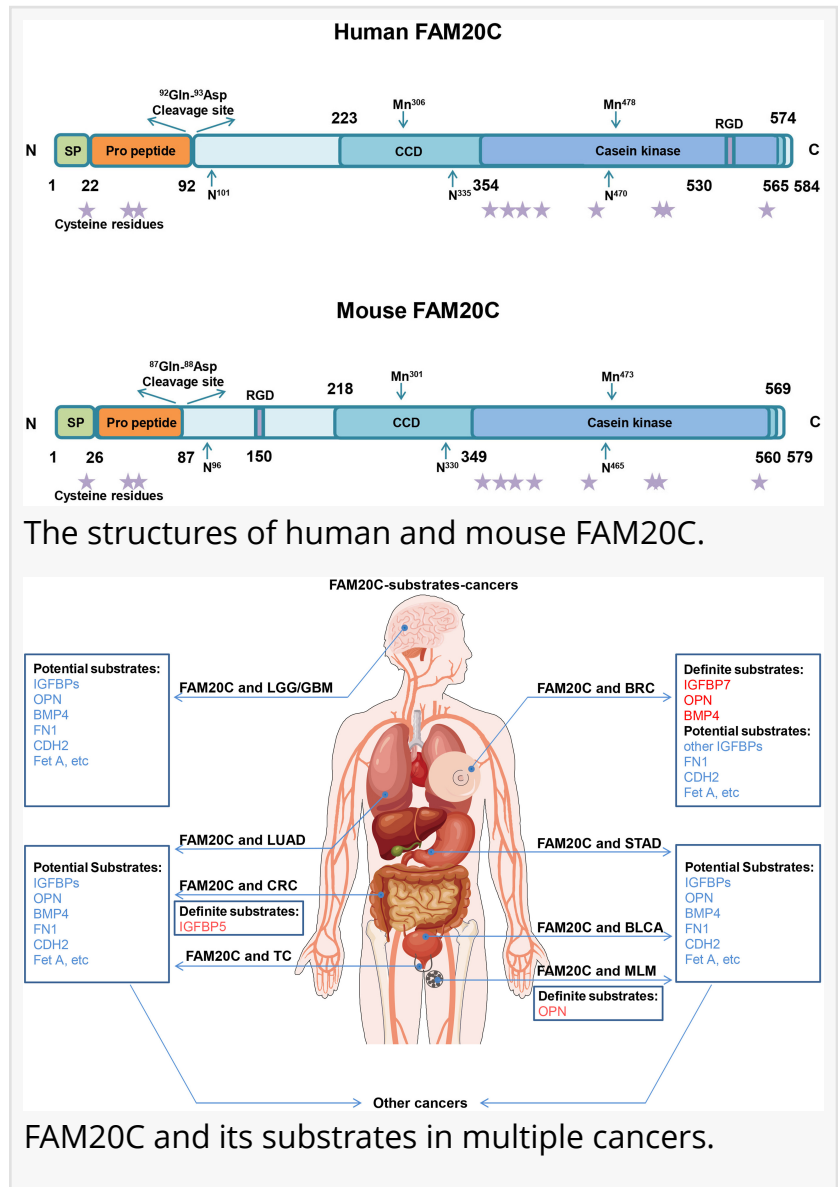


New Research Identifies FAM20C as a Critical Protein Kinase in Cancer Progression and Disease Mechanisms

A new review published in Genes & Diseases explores the multifaceted role of FAM20C, a Golgi protein kinase, in disease progression.

SHANNON, CLARE, IRELAND, February 23, 2025 /EINPresswire.com/ -- A new review published in Genes & Diseases explores the multifaceted role of FAM20C, a Golgi protein kinase, in disease progression. By highlighting FAM20C's involvement in cancer growth, biomineralization, cardiovascular diseases, and metabolic disorders, these findings provide promising insights into new therapeutic strategies targeting FAM20C-related pathways. FAM20C is known for its ability to phosphorylate secreted proteins, regulating critical biological processes. FAM20C is a significant driver of cancer progression, particularly in glioma and breast cancer, by enhancing tumor invasion and metastasis. Additionally, FAM20C's role in modifying the tumor microenvironment may influence immune cell activation and contribute to cancer aggressiveness.

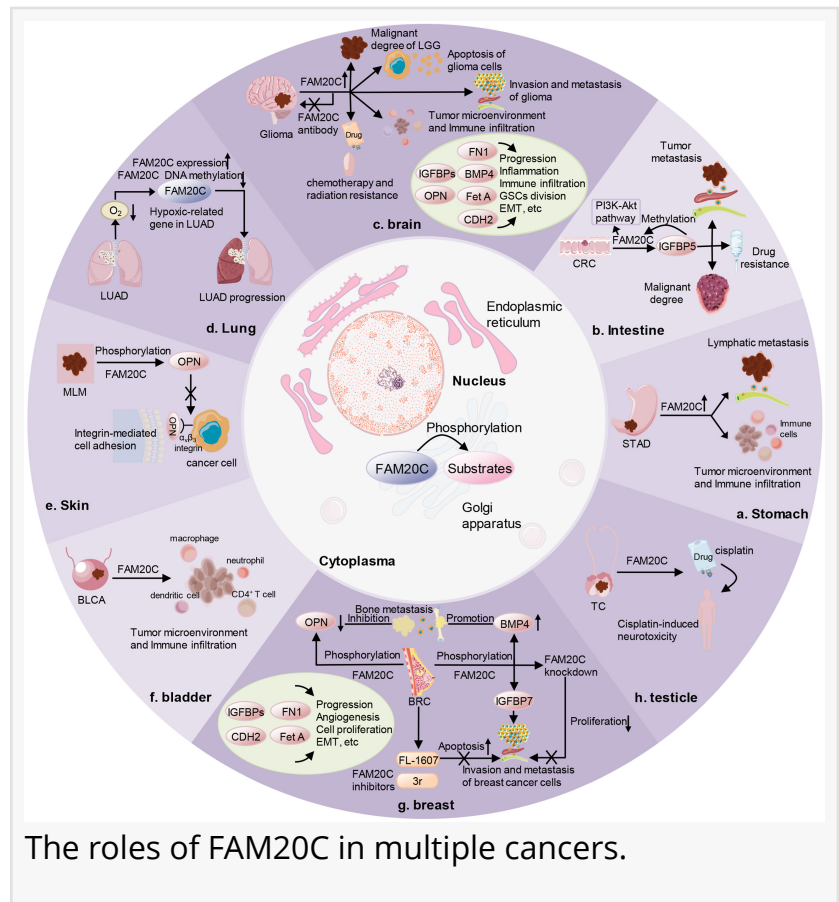
Beyond oncology, the article underscores FAM20C's involvement in bone and dental health, linking it to diseases such as Raine syndrome and hypophosphatemic rickets. Furthermore, the authors connect FAM20C to cardiovascular health, demonstrating its influence on vascular calcification and calcium homeostasis in heart function.



The ability of FAM20C to regulate multiple physiological and pathological processes makes it a promising target for future therapeutic development.

The article also explores potential FAM20C inhibitors as new treatment avenues for aggressive cancers such as glioblastoma and triple-negative breast cancer. Experimental data suggest that small-molecule inhibitors targeting FAM20C could reduce tumor growth and metastasis.

Given its diverse biological roles, the identification of FAM20C as a central regulator of disease progression paves the way for innovative treatment strategies across multiple medical fields.



The roles of FAM20C in multiple cancers.

Reference

Rui Zhang, Yanming Ren, Yan Ju,

Yuekang Zhang, Yan Zhang, Yuan Wang, FAM20C: A key protein kinase in multiple diseases, *Genes & Diseases*, Volume 12, Issue 2, 2025, 101179.

<https://doi.org/10.1016/j.gendis.2023.101179>

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Genes & Diseases publishes rigorously peer-reviewed and high quality original articles and authoritative reviews that focus on the molecular bases of human diseases. Emphasis is placed on hypothesis-driven, mechanistic studies relevant to pathogenesis and/or experimental therapeutics of human diseases. The journal has worldwide authorship, and a broad scope in basic and translational biomedical research of molecular biology, molecular genetics, and cell biology, including but not limited to cell proliferation and apoptosis, signal transduction, stem

cell biology, developmental biology, gene regulation and epigenetics, cancer biology, immunity and infection, neuroscience, disease-specific animal models, gene and cell-based therapies, and regenerative medicine.

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