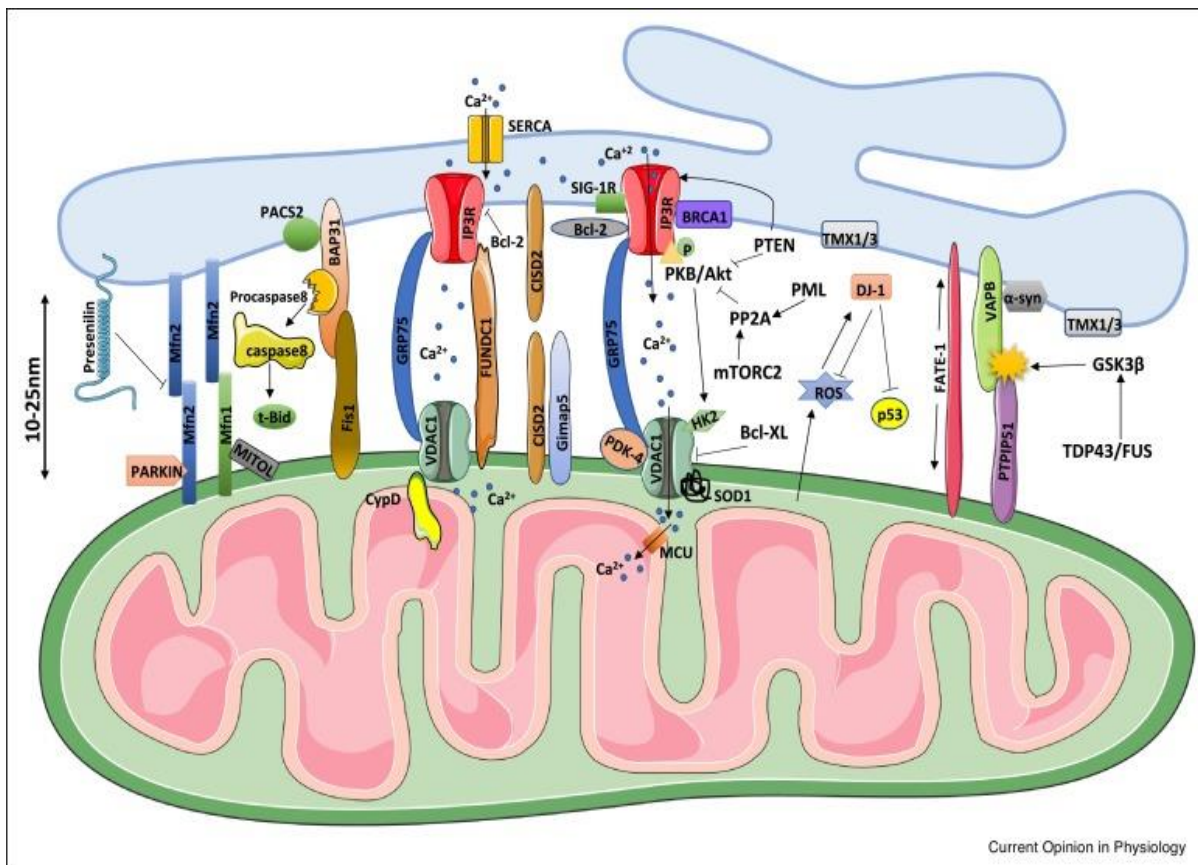


## Pathophysiological significance of calcium signaling at Mitochondria-Associated Endoplasmic Reticulum Membranes (MAMs)

Recent study from DBT's Regional Centre for Biotechnology (RCB), Faridabad, have demonstrated that perturbations in  $\text{Ca}^{2+}$  signaling at Mitochondria-Associated Endoplasmic Reticulum Membranes (MAMs) lead to pathophysiological conditions such as cardiovascular diseases, metabolic disorders, cancers and neurodegenerative conditions. In this review, researchers have briefly discussed the key MAMs constituents that regulate  $\text{Ca}^{2+}$  signaling at these sites. Further, the literature-demonstrating role of  $\text{Ca}^{2+}$  dynamics at MAMs in human pathophysiology has been re-visited and major unanswered questions have been highlighted.



Efficient inter-organelle communication is critical for maintaining cellular physiology and driving cell functions. Endoplasmic reticulum (ER) is involved in several such inter-organelle crosstalks with mitochondria, lysosomes, Golgi complex, endosomes and peroxisomes. The functional tethering of ER and mitochondria at MAMs provides a signaling hotspot for transfer

of lipid and calcium ( $\text{Ca}^{2+}$ ) across these organelles. In last two decades, vital role for  $\text{Ca}^{2+}$  signaling at MAMs has been demonstrated in driving cell physiology. The review article was published from the laboratory of Dr. Rajender K Motiani in the journal, *Current Opinion in Physiology*.

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