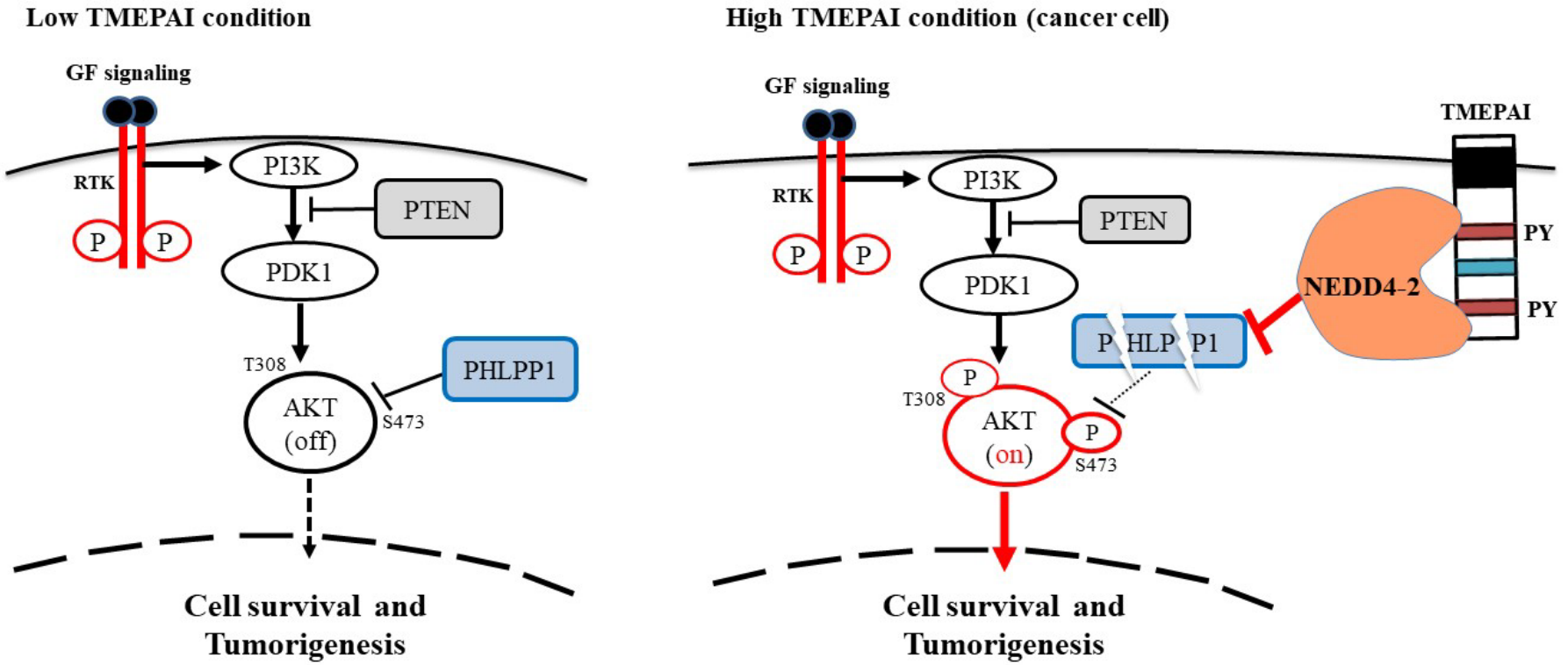
From Laboratory of Experimental Pathology

PMEPA1/TMEPAI is a Unique Tumorigenic Activator of AKT Promoting Proteasomal Degradation of PHLPP1 in Triple-Negative Breast Cancer Cells



In the low PMEPA1/TMEPAI condition, growth factor (GF)-mediated AKT activation is regulated by dephosphorylation of the Thr308 and Ser473 phosphorylation sites by PTEN and PHLPP1, respectively. On the other hand, in the TMEPAI-high condition (e.g. cancer cells), the PY motifs of TMEPAI interact with NEDD4-2 E3 ubiquitin ligase, which potentiates PHLPP1 degradation, leading to full activation of AKT, which in turn promotes tumorigenic activities.

References: Haque Md. Anwarul et al., Cancers. 2021; 13: 4934

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