

FIGURE 1 | Reversed extracellular and intracellular pH in cancer cells compared to normal cells. Cancer cells have a reversed pH gradient compared with normal differentiated cells that is cancer cells have a higher pH $_{\rm i}$ and a lower pH $_{\rm e}$ than normal cells in acute acidosis conditions. The pH $_{\rm e}$

becomes even lower (\sim 6.7) in chronic acidosis. This disruption facilitates the adaptive behaviors of cancer cells such as cytoskeleton remodeling and directed migration, apoptosis evasion, extracellular matrix (ECM) remodeling, invasion, and metastasis.