Cylindromatosis

Cylindromatosis (CYLD) is a tumor suppressor that regulates signaling pathways by acting as a deubiquitinase. CYLDdown-regulation occurred in several malignancies, with tumor-promoting effects. Although Guo et al. found loss of CYLD expression in hypoxic regions of human glioblastoma multiforme (GBM), biological roles of CYLD in GBM remain unknown.

CYLD overexpression strongly counteracted these responses. In addition, chronic anti-angiogenic therapy with bevacizumab, with enhanced hypoxia produced responses similar to these CYLD-regulated proinflammatory responses in a xenograft mouse model. Histologically, CYLD clearly prevented massive immune cell infiltration surrounding necrotic regions, and pseudopalisades appeared in bevacizumab-treated control tumors. Furthermore, CYLD overexpression, which had no impact on survival by itself, significantly improved the prosurvival effect of bevacizumab. These data suggest that CYLD down-regulation is crucial for hypoxia-mediated inflammation in GBM, which may affect the long-term efficacy of anti-VEGF therapy [1].

Dual-luciferase assays identified that the cylindromatosis (CYLD) gene is a direct target of miR 130b. Functional studies demonstrated that a miR-130b mimic significantly promoted the growth and invasion of glioma cells, while also inhibiting apoptosis via selective targeting of CYLD, which was enhanced by CYLD-targeted siRNA. In contrast, a miR-130b inhibitor suppressed these biological behaviors, and this inhibition was reversed by CYLD-targeted siRNA [2].

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miR 181d is required for dendritic cells (DCs) maturation through the activation of Nuclear factor kappa pathway by targeting cylindromatosis CYLD [3].

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2)
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3)
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