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MetroHealth Medical Center

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Abstract Submission Form

Poster Title: **EphA2 Receptor Tyrosine Kinase Facilitates Tumor Immune Evasion**

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Category: **Cancer Biology**

Eph receptors are the largest family of receptor tyrosine kinases. Overexpression of EphA2 is a common signature for several types of solid cancer. Attenuation of EphA2 expression in cancer cells, through either genetic knock-out or chemical treatment, can cause delay in tumor growth rate or even total regression of tumor in several syngeneic mouse caner models. Using multiplexed tissue IHC and cytokine array, we found that EphA2 promotes the production of G-CSF, M-CSF and CXCL1/2 in cancer cells in vivo, which recruits suppressive MDCS to the tumor micro-environment (TME) to facilitate immune evasion. Abolishing EphA2 leads to attenuated production of G-CSF, M-CSF and CXCL1/2 by cancer cells and higher levels of CCL5 and CXCL9 in TME. This allows higher infiltration of T cells into TME to overcome tumor growth. However, this correlation of EphA2 and production of G-CSF, M-CSF and CXCL1/2 is only observed in vivo, not in vitro. This suggests that a paracrine link between TME and cancer cells works through EphA2 signaling. We are actively investigating the molecular details of this paracrine network in TME.