CD73 Immune Pathway

About CD73
CD73 is a cell surface enzyme which is overexpressed in the tumor microenvironment and promotes tumor growth by limiting anti-tumor immunity via the adenosine receptor pathway.1,2

CD73 and Immune Function
• CD73 converts extracellular adenosine monophosphate (AMP) into immunosuppressive adenosine, which shuts down anti-tumor immune surveillance at the level of T cells, natural killer (NK) cells, dendritic cells (DCs), myeloid-derived suppressor cells (MDSCs) and tumor associated macrophages (TAMs).2,3

CD73 and Cancer
• In cancer, upregulation of CD73 expression in tumor cells and cells in the tumor stroma results in an increase in adenosine production,2,3 which:
  - Inhibits T cell and NK cell cytotoxicity, cytokine production and proliferation as well as suppression of antigen-presenting cells (APCs).
  - Promotes regulatory T cell (Treg) proliferation and suppressive activity.
  - Stimulates MDSCs and macrophage M2 polarization.
• These changes enable tumor growth and disease progression.

Research Implications and Interactions
• Preclinical research has identified CD73 as a contributor to immune escape in cancer, therefore, inhibition of CD73 activity may enhance anti-tumor immune surveillance at the level of T cells and other immune cells regulated by adenosine.4
• Targeting the CD73 pathway, in combination with other potentially complementary immune pathways, may be a key strategy to help activate an anti-tumor immune response.

The CD73 pathway is just one of many immune pathways under investigation at Bristol-Myers Squibb. Learn more about our work in Immuno-Oncology by visiting: https://iopathway.web.bms.com