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Organisms adapt to scarce and bountiful nutrient environments by employing nutrient signaling pathways. Sugar is a rich source of energy and carbon for organisms, Dr. Jose Orozco will explore sugar-sensing pathways using biochemical and genetic approaches to discover sugar-regulated kinases and their roles in metabolic adaptation. Dr. Orozco will conduct his work in [Dr. Lewis Cantley's lab](#) at Dana-Farber Cancer Institute. These studies may reveal a new therapeutic target to alleviate metabolic maladaptive responses to the chronic overconsumption of sugars and carbohydrates.

As a graduate student in Dr. David Sabatini's lab at Massachusetts Institute of Technology, Orozco investigated the nutrient-regulated pathway that controls the target of rapamycin complex 1 (mTORC1) kinase. Specifically, Dr. Orozco discovered a [new amino acid sensor that integrates S-adenosylmethionine levels](#), identified a [metabolic product of glycolysis that communicates with mTORC1](#), and [discovered new genes in the mTORC1 pathway](#). Dr. Orozco will continue pursuing his interests in the link between metabolism and signal transduction pathways in his investigations of MondoA.

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