Transcript Details

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How the HIF Pathway Orchestrates an Adaptive, Physiological Response to Anemia

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This medical industry feature, titled "How the HIF Pathway Orchestrates an Adaptive, Physiological Response to Anemia," is sponsored by Akebia Therapeutics Medical Affairs. This program is intended for Healthcare Professionals.

Announcer:
What would happen if our cells weren't receiving enough oxygen, as in the case of anemia? And our bodies couldn't perform how they normally would?

Hypoxia-inducible factor, or HIF, is a family of transcriptional activators involved in how our bodies adapt to low oxygen conditions. During normoxia, levels of HIF-alpha are tightly controlled by a family of oxygen-sensing proteins called PHD. Oxygen is required for PHD to mark HIF-alpha for degradation. Once HIF-alpha is marked, its degradation is mediated by VHL and proteasomes.

What happens during hypoxia?

In contrast, HIF-alpha is stabilized because oxygen levels are too low for PHD to be active. The stabilized HIF-alpha, with HIF-beta, activates the expression of specific genes, including those involved in red blood cell production, iron metabolism, and anti-inflammatory effects

HIF prolyl hydroxylase inhibitor, or HIF-PHI, is a novel class of small molecules that block PHD activity, which stabilizes HIF-alpha. HIF-PHIs mimic our bodies' response to reduced oxygen. Their activity leads to the expression of specific genes, including those involved in red blood cell production, iron metabolism, and anti-inflammatory effects.

HIF PHIs are an approved treatment approach that addresses the underlying mechanisms of anemia of CKD.

ReachMD Announcer:
This program was sponsored by Akebia Therapeutics Medical Affairs. If you missed any part of this discussion, visit Industry Features on ReachMD.com, where you can Be Part of the Knowledge.

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