

### 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.

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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.

### References:

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