Rhythm Pharmaceuticals is a biopharmaceutical company dedicated to pioneering research and development of treatments for rare melanocortin-4 receptor (MC4R) pathway diseases.

Individuals with rare MC4R pathway diseases are often affected with hyperphagia (pathological, insatiable hunger accompanied by food seeking behaviors) and early-onset, severe obesity.¹²

Body weight is highly regulated. The MC4R pathway regulates hunger, caloric intake, and energy expenditure, consequently affecting body weight.¹³⁻⁷

The MC4R Pathway



In some people, genetic variants can impair signaling in the MC4R pathway, leading to hyperphagia and obesity.^{1,3,5}

Abbreviations: AgRP, agouti-related protein; BBSome, complex of 8 Bardet-Biedl syndrome proteins; LEPR, leptin receptor; MC4R, melanocortin-4 receptor; MSH, melanocyte-stimulating hormone; PCSK1, proprotein convertase subtilisin/kexin type 1; POMC, proopiomelanocortin; SH2B1, Src homology 2 B adapter protein 1; SRC1, steroid receptor coactivator 1.



Rhythm Pharmaceuticals is advancing the clinical development program for setmelanotide, an MC4R agonist, as well as investigational MC4R agonists LB54640 and RM-718. In addition, we are working to discover and advance new therapeutic options for patients with congenital hyperinsulinism (CHI).

Rhythm clinical development pipeline

	Patient Population	Pre-clinical	Phase 1/2	Phase 3	Regulatory Approval	
Setmelanotide daily formulation	POMC, PCSK1 or LEPR deficiency				US, Canada*	
	Bardet-Biedl syndrome				US, Canada*	
Setmelanotide daily formulation	Hypothalamic obesity			Enrollment complete		
	Emanate					
	Pediatrics (age 2 to <6 years, biallelic POMC, PCSK1, or LEPR deficiency or Bardet-Biedl syndrome)					
Setmelanotide weekly formulation	Switch study with patients previously on setmelanotide					
LB54640	Hypothalamic obesity					
RM-718	Rare MC4R pathway diseases		Ph1 trial 1H2024			
Pre-clinical	Congenital Hyperinsulinism (CHI)	Lead identification underway				

🔵 Complete 🛛 🧲

🔵 Denotes trial underway 🛛 🛑 📃 Denot

Denotes planned trial

*Other countries include EU, Great Britain, Israel

For more information regarding clinical study opportunities and our ongoing research, please contact clinicaltrials@rhythmtx.com/ or visit our website at https://www.rhythmtx.com/.

Abbreviations: LEPR, leptin receptor; MC4R, melanocortin-4 receptor; PCSK1, proprotein convertase subtilisin/kexin type 1; POMC, proopiomelanocortin.

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