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(54) Title: NOVEL ORALLY BIOAVAILABLE BREATHING CONTROL MODULATING COMPOUNDS, AND METHODS
OF USING SAME

Fig. 1

	Total # of Compounds = 4 (in both RLM & HLM)			Total # of Compounds = 8 (in both RLM & HLM)		
	Volume	Final Concentration	Unit	Volume	Final Concentration	Unit
potassium phosphate buffer	10 mL	100	mM	20 mL	100	mM
MgCl ₂	20 µL of 1 M stock	1.5	mM	40 µL of 1 M stock	1.5	mM
	Mix and aliquot 3.0 mL into Falcon tubes			Mix and aliquot 3.0 mL into Falcon tubes		
Compound	4 µL of 5 mM stock	5	µM	4 µL of 5 mM stock	5	µM
	Divide 300 µL into cluster tubes			Divide 300 µL into cluster tubes		
HLM (or RLM)	Dilute 20 mg/mL 5X (100 µL 20 mg/mL stock + 400 µL potassium phosphate buffer)			Dilute 20 mg/mL 5X (200 µL 20 mg/mL stock + 800 µL potassium phosphate buffer)		
	50 µL of 4 mg/mL	0.5	mg/mL	50 µL of 4 mg/mL	0.5	mg/mL
8 mM NADPH	50 µL of 8 mM	1	mM	50 µL of 8 mM	1	mM
	Prepare a minimum of 750 µL solution			Prepare a minimum of 1,500 µL solution		
Total volume (µL)	400 µL			400 µL		

(57) Abstract: The present invention includes compositions that are useful in the prevention and/or treatment of breathing control diseases or disorders in a subject in need thereof. The present invention also includes a method of preventing and/or treating a respiratory disease or disorder in a subject in need thereof, comprising administering to the subject a therapeutically effective amount of a composition of the invention. The present invention further includes a method of preventing destabilization or stabilizing breathing rhythm in a subject in need thereof, comprising administering to the subject a therapeutically effective amount of a composition of the invention.



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