

Supplementary Data:

Table 1. Aerosol drug delivery using a VMN in a simulated spontaneously breathing adult patient with LFNO. Results are presented as mean \pm SD (%) inhaled dose.

LFNO gas flow rate (LPM)	VMN via cannula	Inhaled Dose (%)			P-Value
		VMN/aerosol chamber at 0 LPM	VMN/aerosol chamber at 2 LPM	VMN/aerosol chamber at 6 LPM	
0	N/A	29.83 \pm 0.96	30.47 \pm 0.85	17.44 \pm 0.18	< 0.001
2	7.72 \pm 0.23	29.76 \pm 1.06	31.44 \pm 1.33	22.07 \pm 1.05	< 0.001
3.5	13.34 \pm 0.58	29.39 \pm 1.23	29.36 \pm 1.84	18.74 \pm 0.51	< 0.001
5	12.26 \pm 0.86	25.91 \pm 1.35	26.30 \pm 1.07	16.80 \pm 0.60	< 0.001
7.5	7.48 \pm 0.57	18.44 \pm 1.04	25.36 \pm 1.79	16.60 \pm 0.39	< 0.001
10	4.72 \pm 0.37	9.40 \pm 0.89	18.26 \pm 0.66	13.14 \pm 0.88	< 0.001

Table 2. Aerosol drug delivery using a VMN in a simulated spontaneously breathing adult patient with HFNO. Results are presented as mean \pm SD % Inhaled dose.

HFNO gas flow rate (LPM)	VMN/nebuliser adapter	Inhaled Dose (%)			P-Value
		VMN/aerosol chamber at 0 LPM	VMN/aerosol chamber at 2 LPM	VMN/aerosol chamber at 6 LPM	
10	15.72 \pm 0.21	4.27 \pm 0.90	21.33 \pm 1.48	24.29 \pm 0.39	< 0.001
30	5.80 \pm 0.41	0.51 \pm 0.11	10.26 \pm 0.86	6.99 \pm 0.44	< 0.001
50	2.03 \pm 0.12	0.51 \pm 0.09	0.64 \pm 0.18	0.67 \pm 0.11	< 0.001
60	1.37 \pm 0.18	0.47 \pm 0.04	0.53 \pm 0.08	0.77 \pm 0.22	< 0.001