

ModulAir Inhaler

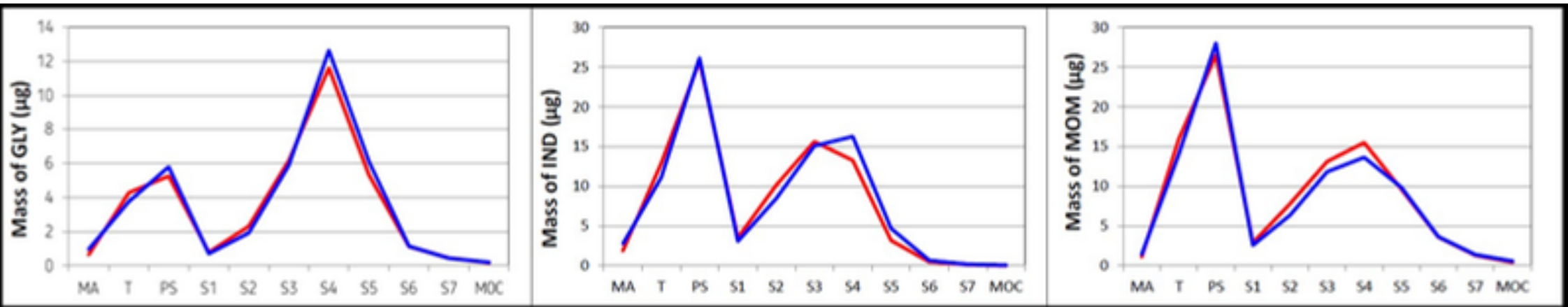
Aerodynamic parameters for Pulinno ModulAir inhaler vs Reference inhaler. The results are carried out on the originals and the Pulinno device, made using injection technology. The modular design of the ModulAir inhaler allows for quick adjustment of the inhaler parameters to the desired formulation.

Indacaterol/Glycopyrronium/Mometasone 114µg/46µg/136µg

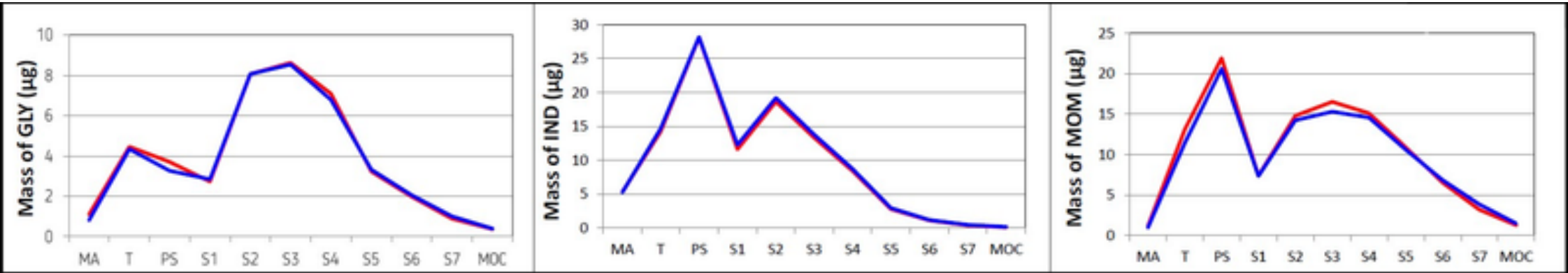
Aerodynamic Particle Size Distribution at 30 l/min

ModulAir device

Reference device



Aerodynamic Particle Size Distribution at 100 l/min



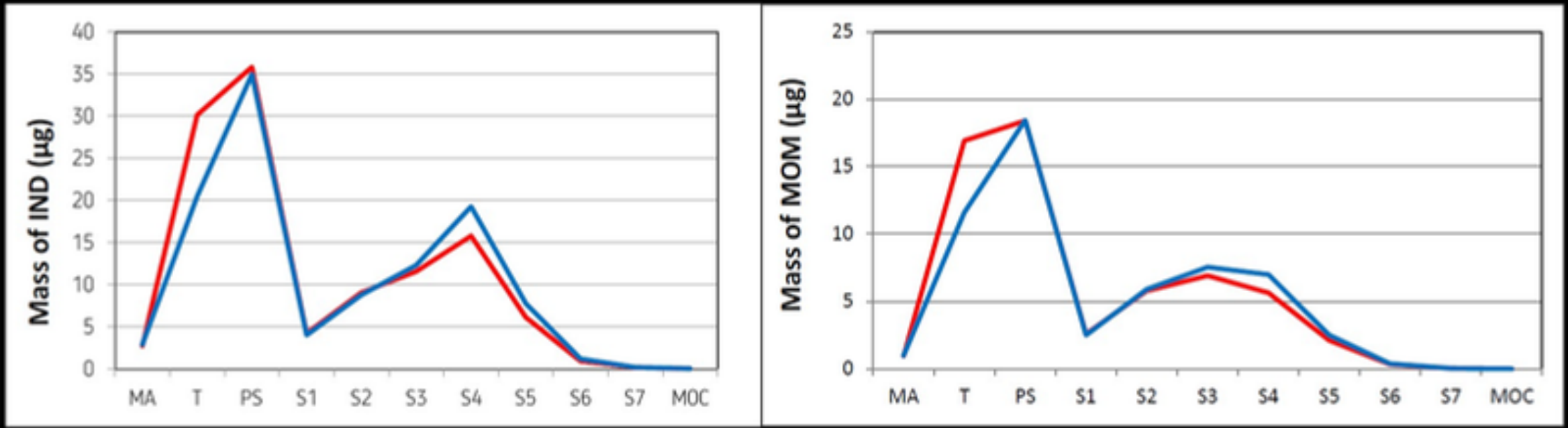
Delivered Dose Uniformity at 30 l/min

30 l/min				
		GLY [%]	IND [%]	MOM [%]
Reference Inhaler	Average Delivered Dose	86	93,4	90,7
	Delivered Dose Uniformity	Max(%): 118,5	Max(%): 128,3	Max(%): 120,0
		Min(%): 87,3	Min(%): 70,7	Min(%): 85,9
ModulAir Inhaler	Average Delivered Dose	86,8	92,6	91,4
	Delivered Dose Uniformity	Max(%): 114,7	Max(%): 120,9	Max(%): 114,4
		Min(%): 86,8	Min(%): 69,1	Min(%): 84,9

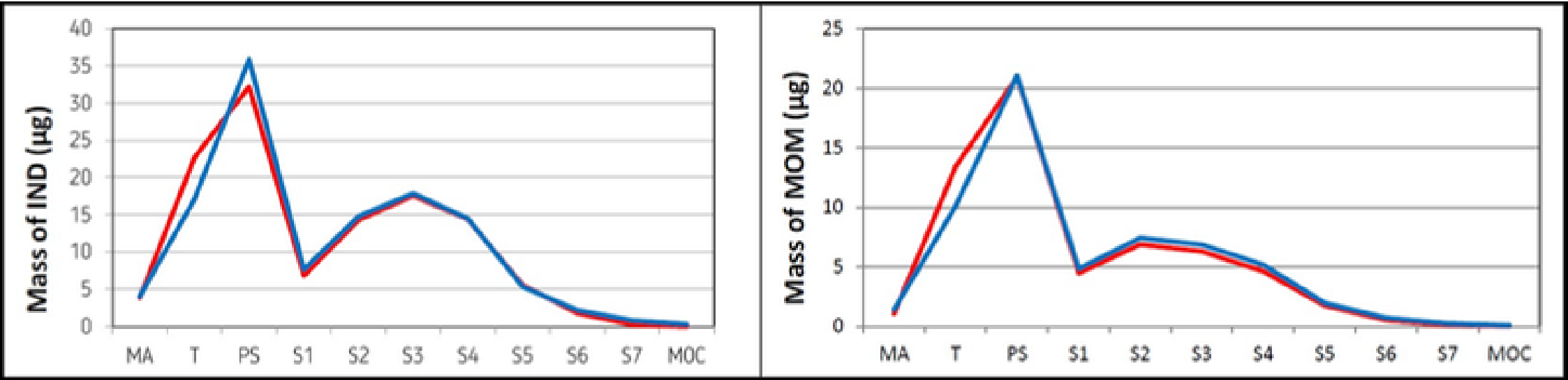
Delivered Dose Uniformity at 100 l/min

100 l/min				
		GLY [%]	IND [%]	MOM [%]
Reference Inhaler	Average Delivered Dose	95,7	111,3	101,7
	Delivered Dose Uniformity	Max(%): 102,5	Max(%): 107,9	Max(%): 104,6
		Min(%): 97,1	Min(%): 75,8	Min(%): 93,3
ModulAir Inhaler	Average Delivered Dose	95,7	111,3	101,7
	Delivered Dose Uniformity	Max(%): 102,5	Max(%): 107,9	Max(%): 104,6
		Min(%): 97,1	Min(%): 75,8	Min(%): 93,3

Indacaterol/Mometasone 125µg/62,5µg
Aerodynamic Particle Size Distribution at 30 l/min



Aerodynamic Particle Size Distribution at 100 l/min



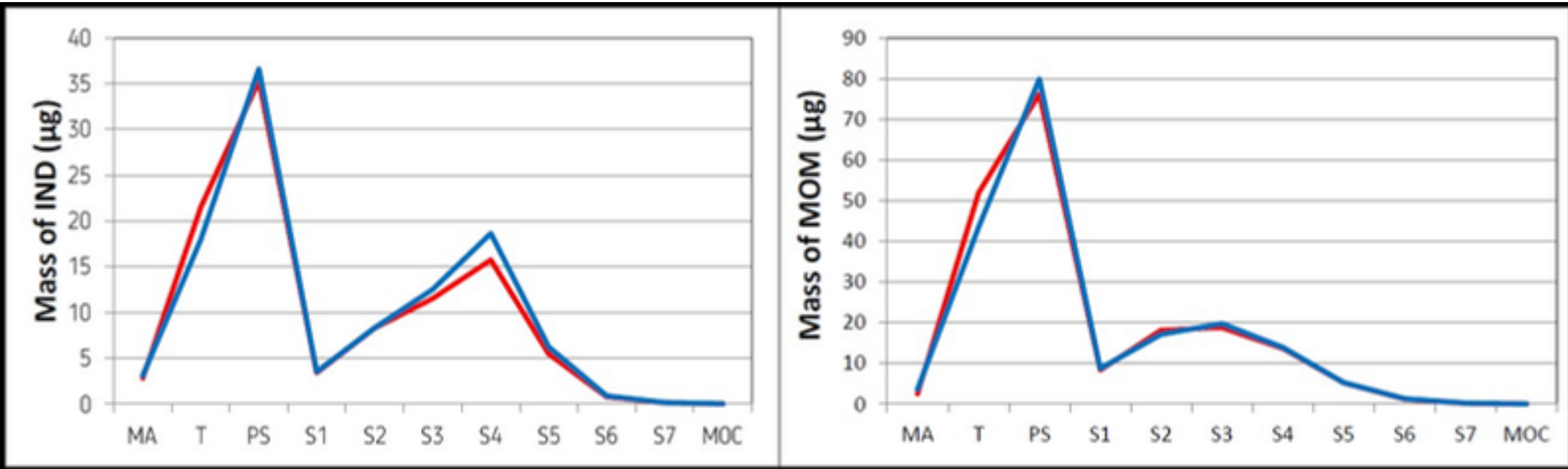
Delivered Dose Uniformity at 30 l/min

		IND [%]	MOM [%]
Reference Inhaler	Average Delivered Dose	89,5	93,2
	Delivered Dose Uniformity	Max(%): 114,0	Max(%): 115,7
		Min(%): 87,4	Min(%): 87,5
ModulAir Inhaler	Average Delivered Dose	88,9	91,9
	Delivered Dose Uniformity	Max(%): 110,8	Max(%): 110,8
		Min(%): 87,6	Min(%): 86,1

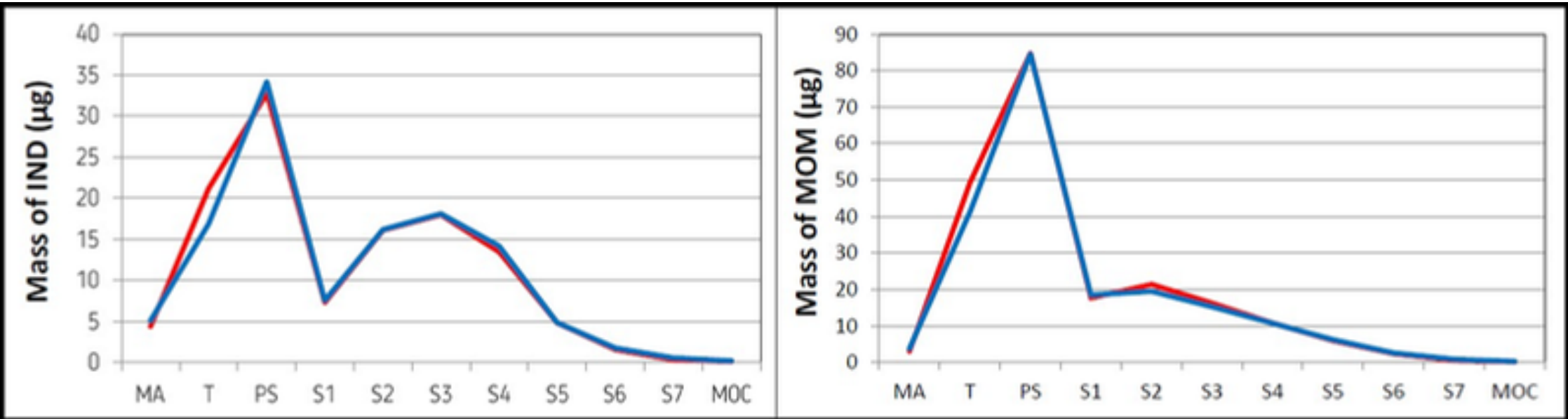
Delivered Dose Uniformity at 100 l/min

		IND [%]	MOM [%]
Reference Inhaler	Average Delivered Dose	102,3	98,8
	Delivered Dose Uniformity	Max(%): 109,5	Max(%): 107,3
		Min(%): 93,4	Min(%): 92,1
ModulAir Inhaler	Average Delivered Dose	103,1	103,8
	Delivered Dose Uniformity	Max(%): 110,8	Max(%): 116,1
		Min(%): 91,6	Min(%): 90,9

Indacaterol/Mometasone 125µg/260µg
Aerodynamic Particle Size Distribution at 30 l/min



Aerodynamic Particle Size Distribution at 100 l/min



Delivered Dose Uniformity at 30 l/min

		IND [%]	MOM [%]
Reference Inhaler	Average Delivered Dose	93,1	93,8
	Delivered Dose Uniformity	Max(%): 116,6	Max(%): 116,4
		Min(%): 89,1	Min(%): 87,5
ModulAir Inhaler	Average Delivered Dose	90,3	90,3
	Delivered Dose Uniformity	Max(%): 123,2	Max(%): 123,1
		Min(%): 84,9	Min(%): 83,8

Delivered Dose Uniformity at 100 l/min

		IND [%]	MOM [%]
Reference Inhaler	Average Delivered Dose	102,4	100,8
	Delivered Dose Uniformity	Max(%): 114,0	Max(%): 113,2
		Min(%): 87,0	Min(%): 88,0
ModulAir Inhaler	Average Delivered Dose	105,2	102,9
	Delivered Dose Uniformity	Max(%): 105,3	Max(%): 105,7
		Min(%): 91,7	Min(%): 90,5