

**Title- Comparative In-vitro Performance Evaluation of Two Salmeterol/Fluticasone (50/250mcg) Multidose Discrete Dry Powder Inhalers**

**Authors- Eshita Sharma<sup>1</sup>, Nitiraj R<sup>2</sup>, Manoj P<sup>2</sup>, Dr. Rushika Shah<sup>1</sup>, Dr. Meena Lopez<sup>1</sup>, Kapileswar Swain<sup>2</sup>, Dr. Jaideep Gogtay<sup>1</sup>**

**Institutional Affiliation / Department- 1. Medical Affairs, Cipla Ltd.; 2. Global Respiratory Formulation R&D – DPI, Cipla Ltd.**

**Phone- 9673269966**

**Email- eshita.sharma@cipla.com**

**Background:**

Ease of use and portability make multidose dry powder inhalers (mDPI) preferable over unit-dose dry powder inhalers (DPI). Salmeterol/Fluticasone mDPI is available as Seretide Accuhaler®/Diskus® globally. Seroflo Ciphaler® is an mDPI indigenously developed by Cipla Ltd. and similar to the Seretide Accuhaler®/Diskus® device.

**Aims and Objectives:** To evaluate the *in-vitro* performance of Seroflo Ciphaler® (Cipla Ltd.) with Seretide Accuhaler® (GSK Pharmaceuticals Ltd.).

**Materials/patients & methods:** The performances of Seroflo Ciphaler® and Seretide Accuhaler® were compared using random samples for various parameters, namely, fine particle dose (FPD), mass median aerodynamic diameter (MMAD) and geometric standard deviation (GSD). The FPD, GSD and MMAD were measured using Next Generation Impactor (NGI, Copley Scientific) at 30, 60, 90 L/min. High performance liquid chromatography was used to analyze the amount of drug deposited in the NGI.

**Results:** The FPD, MMAD and GSD for salmeterol and fluticasone at 30, 60 and 90L/min were comparable between the two mDPIs.

	Flow rate	Salmeterol		
		FPD	MMAD	GSD
Seroflo 250 Ciphaler®	30 LPM	7.0	4.4	2.2
	60 LPM	9.8	3.7	2.1
	90 LPM	11.1	3.4	2.0

Fluticasone propionate		
FPD	MMAD	GSD
41.5	4.3	2.1
57.5	3.7	2.1
63.3	3.5	2.0

Seretide 250 Accuhaler®	30 LPM	6.2	4.7	2.2
	60 LPM	9.1	3.5	2.2
	90 LPM	9.7	3.2	2.0

38.3	4.4	2.1
55.9	3.4	2.1
59.8	3.1	2.1

**Conclusion:** The *in-vitro* drug deposition of Seroflo Ciphaler® was similar to that of Seretide Accuhaler®

**Limitations:** None

**Conflict of Interest:** Authors are employees of Cipla Ltd.