1. Master Batch Record Approvals			
	Name	**Signature**	**Date**
Originator	**Ramesh Dandu**		
Production	**Ravikanth Kona**		
Quality Control	**James Polli**		
Quality Assurance	**Stephen Hoag**		

2. Product Details	
Description	CipA1- Ciprofloxacin Hydrochloride 200mg Tablets (Excipients included: Avicel PH 102 (Microcrystalline cellulose), Klucel EXF (Hydroxypropyl cellulose), Starch 1500 (Pregelatinized starch), Kosher Passover Magnesium Stearate (Covidien)
Part No.	F-7007
Batch Quantity	Materials are weighed and mixed to manufacture tablets of Ciprofloxacin Hydrochloride. Batch size: 2 Kg.
Storage Conditions	Ambient - room temperature, preserve in tight containers and protect from light and moisture

3. Production Batch Record Issuance		
Issued By – Issuer has reviewed the Batch Record to ensure that the copy is a complete, accurate copy of the Master Batch Record.		
Stephen W. Hoag (Print) Issued By – Quality Assurance	Signature	Date
Issued To – Production has reviewed the Batch Record to ensure that the copy is a complete and correct. Production is responsible for the Batch Record following issuance.		
Ravi Kona/ Ramesh Dandu (Print) Issued To - Production	Signature	Date

4. Signature and Training Log

All personnel making entries on this Batch Record must complete the Signature Log. Completion of the Signature Log indicates that each person has been thoroughly trained on this Batch Record and all documents listed in Section 5: Reference Documentation.

Note: The Signature Log completion does not supersede the requirements of *GMP Training Program* (SOP-006).

Name	Signature	Initials	Date
Ramesh Dandu			
Ravikanth Kona			
Stephen W. Hoag			

5. Reference Documentation

SOP-003: Good Documentation Practices
SOP-006: GMP Training Program
SOP-005: Nonconformances
SOP-009: Material Storage and Inventory Procedure
SOP-011: Facility Cleaning Procedures
SOP-012: Temperature and Humidity Monitoring
SOP-015: Gowning Procedures
SOP-017: Retain Sample Program
SOP-019: Material weighing and Dispensing
SOP-020: Equipment Calibration
SOP-021: Batch Records
SOP-025: B2 Stokes tablet press
SOP-026: V- blender

6. Bill Of Materials

Description	Part Number	Quantity Req'd	Lot No. / Rec. No.	Qty Staged	Exp / Retest	Performed By / Date	QA Verified By / Date
Ciprofloxacin Hydrochloride	R-1018	1500 gm	CI0 6026 / 031209-01				
Avicel PH 102 (Microcrystalline cellulose)	R-1002	1110gm	P209820744 / 0107110-01				
Klucel EXF (Hydroxypropyl cellulose)	R-1019	60gm	99769 / 012310-01				
Starch 1500 (Pregelatinized starch)	R-1015	150gm	IN515968 / 051309-01				
Magnesium Stearate - Kosher Passover (Covidien)	R-1017	15gm	M05676 / 012709-03				

7. Processing Equipment

Equipment Description	ID No.	Previous Cal.	Cal. Req'd	Performed By / Date	QA Verified By / Date
Balance - Mettler PC 16	UMB-0001	05/17/2009	Meets requirement	Stanley (American Scale & Equipment co Inc)	
B2-Stokes tablet press	UMB-0013	05/26/2010	Meets requirement	UMB internal calibration	
Balance - PL303	UMB-0003	05/17/2010	Meets requirement	Stanley (American Scale & Equipment co Inc)	
V- blender (Kelly Patterson)	UMB-0012	06/02/2010	Meets requirement	UMB internal calibration	
Timer – VWR Model# 62344-912	UMB-0016	2010-calibration expires 04/23/2012	Meets requirement	Control Company	
Chart recorder – Dickson TH800	UMB-0007	03/20/2009	Meets requirement	Dickson Calibration services – Dan Gawel	

8. Area Clearance		
Step	**Performed By / Date**	**QA Verified By / Date**
1. GMP Processing Area(s): Room: ___670/671_____		
2. Review the GMP Processing Area Logbook(s) and ensure that the Logbook(s) is (are) complete, and up-to-date.		
3. Review all applicable GMP Processing Area Logbook(s) and verify that Cleaning and Sanitization has been performed according to *Facility Cleaning Procedures* (SOP-011), and that the Cleaning and Sanitizing occurred within the allowed time before a GMP operation. Date Cleaning Complete: _____ Date Sanitizing Complete: _____		
4. Verify that all work surfaces within the GMP Processing Area have been Sanitized (e.g., wiped with NLT 70% Isopropanol) on the day of production. Verify that this Sanitization has been recorded in the Logbook(s).		
5. Review Section 6: Bill of Materials, and ensure that it is complete, accurate, and that all necessary materials are present for the GMP operation. Ensure that all GMP Materials are Released, Approved and have sufficient time to the Use By Date.		
6. Review Section 7: Processing Equipment, and ensure that it is complete, accurate, and that all necessary equipment is present, cleaned and calibrated, as appropriate. Review the Logbook for each piece of GMP Equipment, and ensure that the Logbooks are correctly filled out. Twin shell blender (UMB-0012) – 06/01/2010_____ B2-Stokes tablet press (UMB-0013) –_____		
7. Verify that the cGMP Processing Area does not contain any items from previous batches or cleaning activities and that no items unrelated to the current cGMP batch are present.		
8. Area Clearance Complete. QA shall Complete the Area Clearance Sign (SOP-021, Attachment 1) and affix it to the GMP Processing Area entrance.		

9. Production Procedure Processing Step	Performed By / Date	Verified By / Date
1. Inspect that no large clumps are included (in API/ excipients) and weigh the individual components separately into a suitable container/plastic bags in Room 670. If clumps are observed sift the excipients and or API before and after mixing as required to enhance blend uniformity. Ciprofloxacin Hydrochloride (R-1018) – 50% Required _1500_gm; Weighed _____gm. Avicel PH 102 (Microcrystalline cellulose) (R-1002) - Required _1110_gm; Weighed _____gm. Starch 1500 (Pregelatinized starch) (R-1015) – 5% Required _150_gm; Weighed _____gm. Klucel EXF (Hydroxypropyl celloluse) (R-1019) – 2% Required _60_gm; Weighed _____gm. Kosher Passover - Magnesium stearate (R-1017) – 0.5% Required _15_gm; Weighed _____gm. Total weight of the batch (including the weight of the extragranular fraction) Label the container/bags - “Ciprofloxacin blend – Formulation A”		
2. Carefully transfer **ALL** the weighed materials into appropriate twin shell blender i.e blender **UMB-0012** for 1.8 to 3.6 kg batch of Ciprofloxacin blend. 3. Check the fill volume once **ALL** the materials are transferred to the twin shell blender container. Fill volume _____% (visual inspection). 4. If the fill volume is 40 to 70% of the blender - proceed to blending step (Step 6) 5. **If the twin shell blender is under/over filled to the set specification .** • If available, transfer the material into a clean suitable twin shell that would be filled to 40 to 70% once all the material is transferred and proceed to the blending step (Step 6). • If a suitable blender is **NOT** available transfer the		

9. Production Procedure Processing Step	Performed By / Date	Verified By / Date
material into a suitable container/plastic bag (double bag) label appropriately and stop the production.		
6. Blend for 7 min: Start Time: _____min; End Time: _____min		
7. With a clean sampling thief (Conbar - 5200) carefully collect samples from each arm of the twin shell blender (approx 2 gm) into labeled scintillation vials (for Near infrared spectroscopy scans to test for blend uniformity). 8. Label the vials as "Top UMB-201006-01", "Middle UMB-201006-01" and "Bottom UMB-201006-01" **Note:** Sample materials 3-5cm from the surface of the powder bed with minimal disturbance to the powder bed.		
9. Carefully transfer the contents of the twin shell blender into a suitable plastic bag. **Note:** Minimize the height of pouring to reduce segregation. 10. Label the plastic bag "Ciprofloxacin blend – Formulation A (UMB-201006-01)".		
11. Double bag it and set it aside for roller compaction at the GMP facilities of UPM Pharmaceuticals Inc, Baltimore, MD. **Note: Use 1890gm for CipA1 and 945gm for CipA2 during granulation step.** **Label on the shipped material:** Ciprofloxacin blend – Formulation A • **Roll Pressure** _____ • **FSS:RS** _____ • **Fine granulator** _____ • **Fine granulator setting** _____		

9. Production Procedure Processing Step	Performed By / Date	Verified By / Date
Weight of material being shipped _____ gms.		
12. Attach Exhibit A (GMP notes generated during the roller compaction process at UPM Pharmaceuticals) to the production batch record. **Label on the received material ___CipA1_____** • **Roll Pressure** _____ • **FSS:RS** _____ • **Fine granulator** _____ • **Fine granulator setting** _____ Weight of material received _____ gms.		
13. Weight of extra-granular Starch 1500 to be added: Weight of granules (X) gm x 5 / 100 = _____ gm Weight of extra-granular Magnesium stearate to be added: Weight of granules (X) gm x 0.5 / 100 = _____ gm		
14. Carefully transfer **ALL** the weighed materials into appropriate twin shell blender i.e blender **UMB-0012** for 3Kg. 15. Check the fill volume once **ALL** the materials are transferred to the twin shell blender container. Fill volume _____% (visual inspection). 16. If the fill volume is 40 to 70% proceed to blending step (Step 6) 17. **If the twin shell blender is under/over filled to the set specification.** • If available, transfer the material into a clean suitable twin shell that would be filled to 40 to 70% once all the material is transferred and proceed to the blending step (Step 18). • If a suitable blender is **NOT** available transfer the material into a suitable container/plastic bag (double bag) label appropriately and stop the		

9. Production Procedure Processing Step	Performed By / Date	Verified By / Date
production.		
18. Blend for 2 min: Start Time: _____min; End Time: _____min		
19. Carefully transfer the contents of the twin shell blender into a suitable plastic bag. **Note:** Minimize the height of pouring to reduce segregation. 20. Label the plastic bag “Blend for tableting: CipA1”.		
21. Set-up the tablet press with the hopper, feed frame and the force transducers (National instruments) attached to the computer system as described in the SOP-025. **Pay careful attention to the safety notes outlined in the Operating procedures of SOP-025.** 22. Ensure that the gap between the feed frame and the die table is paper thick (A regular A4 paper should be able to slide in and out between the die table and the feed frame) 23. Carefully pour the material (**Blend for tableting: CipA1**) into the hopper of the tablet press. 24. Manually operate/rotate the tablet press to ensure that the feed frame is evenly filled with the granules and flow well though the hopper to the feed frame onto the die table and eventually die cavity. 25. Continue the rotation to produce a couple of tablets - ensure that all the parts of the press are working (SOP-025). Target weight of the tablets is 400mg, however a range 385 – 415mg [**Target weight = 400mg**]. 26. Power on the computer and the National Instruments chassis attached to the force transducers on the tablet press. Start the national instruments software and begin monitoring the compression forces on the tablet press (as described in SOP-025). 27. Turn on the tablet press, allow the machine to stabilize		

9. Production Procedure Processing Step	Performed By / Date	Verified By / Date
i.e. discard first 10±5 tablets and check the weight of the next 5 tablets. Adjust the height of the weight control cam to make 400±10 mg tablets. 28. Using the transducers and software (National instruments) adjust the compression force to _____mV. 29. Begin collection of tablets ONLY after the tablet press stabilizes at the desired weight specification and compression force (Refer steps 30 and 31 respectively). 30. Throughout the collection time monitor and ensure that the compression force is within limits (Step 31). 31. Collect 100 tablets every 15 minutes until the end of production around 4-7time points. Transfer these tablets into previously labeled containers "CipA1- Ciprofloxacin Hydrochloride USP 200mg" with suffix T, U, V up to Z. Suffix: T=15mins, U=30mins, V=45mins, W=60mins, X=75mins, Y=90mins, and Z=115mins. 32. At the end of the run collect the rest of the tablets gently (without breaking them) bag mix them, transfer on to a paper and randomly add 100 tablets each into previously labeled bottles "CipA1- Ciprofloxacin Hydrochloride USP 200mg" with the suffix A, B, C and so on		

10. Post-Production Sampling, Material Transfer and Storage

Total number of bottles (each containing 100 tablets) produced: _____

No. of tablets in the last container: _____(less than 100)

- Randomly assign two bottles with 100 tablets each (UMB-201006-01A and UMB-201006-01B) and set them aside as clinical supplies
- Randomly assign 1 bottle with 100 tablets each (UMB-201006-01C) aside for release testing i.e. t=0 as per **PSP-006** (Stability protocol for Ciprofloxacin Hydrochloride 200mg tablets for FDA project)
- Randomly assign 1 bottle with 100 tablets each (UMB-201006-01D) aside for 1 month stability at 25oC/60% RH i.e. t=1 month as per **PSP-006** (Stability protocol for Ciprofloxacin Hydrochloride 200mg tablets for FDA project)
- Randomly assign 1 bottle with 100 tablets each (UMB-201006-01E) aside for 2 month stability at 25oC/60% RH i.e. t=2 month as per **PSP-006** (Stability protocol for Ciprofloxacin Hydrochloride 200mg tablets for FDA project)
- Randomly assign 1 bottle with 100 tablets each (UMB-201006-01F) aside for 1 month

9. Production Procedure Processing Step	Performed By / Date	Verified By / Date
stability at 40oC/75% RH i.e. t=1month as per **PSP-006** (Stability protocol for Ciprofloxacin Hydrochloride 200mg tablets for FDA project) • Assign the remaining bottles as retain samples and label them as UMB-201006-01, alphabetically increase from G through J or as required.		

Step	Performed By / Date	Verified By / Date
1. See above		

11. Yield Calculations

1. _____ : _____
2. _____ : _____
3. _____ : _____
4. _____ : _____
5. _____ : _____
6. _____ : _____
7. _____ : _____

% Yield =

Step	Performed By / Date	Verified By / Date
1.		
2.		

12. Production Comment Log

Record any comments or observations from the production process. Initial and date each comment. Quality Assurance shall review, initial and date each comment or observation following production.

Comment / Observation	Step No	Performed By / Date	QA Verified By / Date
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

13. Exception Log

Record all Exceptions that occur during the production process. Quality Assurance shall review, classify, initial and date each entry following production, or as required. Planned Deviations and Nonconformances require a documented Nonconformance Report according to *Nonconformances* (SOP-005).

Exception	Documented By / Date	Class (E, PD, NC)	QA Verified By / Date
1.			
2. .			
3. .			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

E = Exception

PD = Planned Deviation

NC = Nonconformance

14. Post- Production Review

The complete Post-Production Batch Record has been reviewed for completeness and accuracy. All pages are complete and all entries conform to Good Documentation Practices.

	Name	Signature	Date
Production	Ramesh Dandu/Ravi Kona		
Quality Assurance	Stephen W. Hoag		

15. Quality Assurance Disposition

The material produced through the execution of this Batch Record shall be Dispositioned by QA according to *Material Disposition and Status Labeling* (SOP-010).

The Disposition shall be recorded below.

☐	**RELEASED**	**Quantity (Units)**	
☐	**CONDITIONAL RELEASE**	**Quantity (Units)**	
☐	**RESEARCH USE ONLY**	**Quantity (Units)**	
☐	**REJECTED (Include Comments)**	**Quantity (Units)**	
UMB assigned Use-By Date (MM/DD/YY or MM/YY)		**Retest Expiration**	
Comments			

Stephen W. Hoag (Print) Performed By - Quality Assurance	Signature	Date

16. Version Summary

New