

3.2 Medical Requirements Overview**TABLE 3.2: MEDICAL REQUIREMENTS OVERVIEW**

MRID# and Title:	MR021L Crew Microbiology
Sponsor:	Medical Operations
IPT:	Immunology/Infectious Disease
Category:	Medical Requirements (MR)
References:	Astronaut Medical Evaluation Requirements Document (AMERD) JSC 24834, Appendix B, Section V, Pre and Postflight Medical Evaluation Requirements for Long Duration Flights (30 days or more)
Purpose/Objectives:	Physicians will perform microbiological evaluation of crewmembers to complement clinical laboratory analyses and the physical examination.
Measurement Parameters:	Cultures of throat, urine, and feces.
Deliverables:	Preflight medical assessment test (MAT) report of results to Flight Surgeon
Flight Duration:	≥ 30 days
Number of Flights:	All
Number and Type of Crew Members Required:	All primary U.S. crewmembers. Back-up crew will only complete preflight MATs greater than L-45 days unless specifically waived by crew surgeon. If crew swap does occur, back-up crew will complete all preflight MATs.
Other Flight Characteristics:	N/A

3.3 Preflight Training - none

3.4 Preflight Activities

TABLE 3.4: PREFLIGHT ACTIVITIES

Preflight Activity	Description:	Testing at L-30 days to 45 days will include urine and fecal samples for bacterial cultures; and examination of feces for ova and parasites as well as fecal Giardia antigen. On L-7 to 10 days only, a throat culture and a rapid Group A Streptococcus test will be performed. Potential pathogens present in significant numbers are tested for antibiotic susceptibility.			
	Schedule:	Duration:	Schedule:	Flexibility:	Personnel Required:
		Crew Microbiology - MAT 15 min Crew Microbiology - MAT 15 min	L-30 to 45 days L-7 to 10 days	N/A N/A	Crewmembers/Lab Personnel Crewmembers/Lab Personnel
Ground Support Requirements Hardware/Software	Preflight Hardware:	Preflight Software:		Test Location:	
	Fecal Collection Kit* Urine Collection Kit* Crew Sample Collection Kit*	N/A N/A N/A		U.S. and Russia U.S. and Russia U.S. and Russia	
Testing Facilities	Minimum Room Dimensions:	Number of Electrical Outlets:	Temperature Requirements:	Special Lighting:	
	8' x 10' (typical exam room)	N/A	Ambient	N/A	
	Hot or Cold Running Water:	Privacy Requirements:	Vibration/Acoustic Isolation:	Other:	
	Sink with hot and cold water to wash hands	Access to rest rooms for urine collection	N/A	1 table, 1 chair	
Constraints/Special Requirements:	*Consumables will be hand carried to Russia				
Launch Delay Requirements:	Microbiology testing will be repeated at flight surgeon's discretion if launch is delayed.				
Notes:	If sample collection and processing occur in Russia, bacterial isolates and a preserved fecal sample will be hand carried from Moscow to the U.S. by JSC Microbiology Laboratory.				
Data Delivery	Data/Report to Designated Recipients (Nominal/Contingency):				
	<ul style="list-style-type: none"> A preliminary test report will be delivered to the crewmember's flight surgeon 48 hours following preflight activity. A final report will be submitted 7-10 days following preflight activity. 				

3.5 In-Flight Activities - none

3.6 Postflight Activities - none

3.7 Summary Schedule

TABLE 3.7: SUMMARY SCHEDULE

ACTIVITY	DURATION	SCHEDULE	FLEXIBILITY	BLOOD VOLUME	PERSONNEL REQUIRED	CONSTRAINTS
Preflight Training - none						
Preflight						
Crew Microbiology - MAT	15 min	L-30 to 45 days	N/A	N/A	Crewmember/Lab Personnel	None
Crew Microbiology – MAT	15 min	L-7 to 10 days	N/A	N/A	Crewmember/Lab Personnel	None
In-Flight Activity - none						
Wheels-Stop – N/A						
Postflight - none						
Postflight Debrief – N/A						