

Fiscal Year:	FY 2005	Task Last Updated:	FY 11/27/2007
PI Name:	Sams, Clarence Ph.D.		
Project Title:	Validation of Procedures for Monitoring Crewmember Immune Function (Integrated Immune - SMO 015/SDBI 1900)		
Division Name:	Human Research		
Program/Discipline:	HUMAN RESEARCH		
Program/Discipline--Element/Subdiscipline:	HUMAN RESEARCH--Biomedical countermeasures		
Joint Agency Name:	TechPort:	No	
Human Research Program Elements:	(1) HHC :Human Health Countermeasures		
Human Research Program Risks:	(1) Immune :Risk of Adverse Health Event Due to Altered Immune Response (2) Microhost :Risk of Adverse Health Effects Due to Host-Microorganism Interactions		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
PI Email:	clarence.sams-1@nasa.gov	Fax:	FY
PI Organization Type:	NASA CENTER	Phone:	281-483-7160
Organization Name:	NASA Johnson Space Center		
PI Address 1:	Human Adaptation and Countermeasures Office		
PI Address 2:	2101 NASA Parkway, Mail Code SK		
PI Web Page:			
City:	Houston	State:	TX
Zip Code:	77058-3607	Congressional District:	22
Comments:			
Project Type:	FLIGHT	Solicitation / Funding Source:	Directed Research
Start Date:	05/03/2005	End Date:	09/30/2011
No. of Post Docs:	No. of PhD Degrees: 0		
No. of PhD Candidates:	No. of Master' Degrees: 0		
No. of Master's Candidates:	No. of Bachelor's Degrees: 0		
No. of Bachelor's Candidates:	Monitoring Center: NASA JSC		
Contact Monitor:	McCollum, Suzanne	Contact Phone:	281 483-7307
Contact Email:	suzanne.g.mccollum@nasa.gov		
Flight Program:	Shuttle/ISS		
Flight Assignment:	Start of Definition Phase NOTE: End date changed to 9/30/2011 per B. Corbin/JSC (3/2009) NOTE: End date changed to 5/31/2011 per PI ; original end date was 4/30/2010 (2/09)		
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Pierson, Duane (NASA JSC) Stowe, Raymond (Microgen Laboratories) Crucian, Brian (Wyle Laboratories)		
Grant/Contract No.:	Not Available		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	<p>SMO 008. The objective of this experiment is to understand the effects of space flight on the human immune system. Numerous investigations have demonstrated a decrease in specific immune cell functions following space flights of varied duration. This decrease in host defense may increase the potential for illness in crewmembers during flight. To assess this, white blood cells will be tested for changes in function or response to stimulation as a consequence of space flight. The concentrations of factors that regulate immune function will also be determined. These data will be correlated with reactivation and shedding of latent herpes viruses. This information is needed to determine the crewmembers' risk of infection during space flight.</p> <p>SMO 015. The objective of this experiment is to understand the effects of space flight on the human immune system, and determine any clinical risk for exploration related to immune dysregulation. Numerous investigations have demonstrated a decrease in specific immune cell functions following space flights of varied duration. Should it persist for extended durations, this decrease in host defense may increase the potential for illness in crewmembers. To assess this, crewmember white blood cells collected during flight will be tested for changes in function or response to stimulation. The concentrations of factors that regulate immune function will also be determined. These data will be correlated with reactivation and shedding of latent herpes viruses and measurements of stress hormones. This information is needed to determine the crewmembers' risk of adverse clinical events related to immunology that may occur during space flight, and in particular for exploration-class missions.</p>
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2005.
Bibliography Type:	Description: (Last Updated: 06/29/2023)