Task Book Report Generated on: 04/17/2024

Pl Name: Slowe, Raymond Ph.D.  Project Title: Space Flight-Induced Reactivation of Latent Epstein-Bair Virus  Division Name: Human Research Program/Discipline: HUMAN RISEARCH Program/Discipline: Blement/Subdiscipline: Bluman Research Program Blaises: (UIMC-Human Health Countermeasures  Human Research Program Blaises: (UImmune/Risk of Adverse Health Event Due to Altered Immune Response  Space Biology Cross-Element Booker Blooker Space Blooky Cross-Element Booker Brooker Br	Fiscal Year:	FY 2004	Task Last Updated:	FY 01/06/2010
Project Title:         Space Flight-Induced Reactivation of Latent Fjattein-Barr Vina           Division Name:         Human Research           Program/Discipline- Enternet/Subdiscipline- Joint Agency Name:         HUMAN RESEARCH—Operational and clinical research Enternet/Subdiscipline- Human Research Program Richem         ICI MICH Human Health Countermeasures           Human Research Program Richem         (I) HIMCHaman Health Countermeasures           Space Biology Space Biology Special Category:         None           Space Biology Special Category:         None           PI Famal:         metoseconicroscentable combinance and since			Tusk Elist opulitous	11 01/00/2010
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Program/Discipline:         HUMAN RESEARCH           Program/Discipline-Element/Subdiscipline:         HUMAN RESEARCH—Operational and clinical research           Joint Agency Name:         TechPort:         No           Human Research Program Elements:         (1) HHC-Human Health Countermeasures           Human Research Program Risks:         (1) HIC-Human Health Countermeasures           Human Research Program Risks:         (1) HIC-Human Health Countermeasures           Space Biology Element:         None           Space Biology Cross-Element         None           Space Biology Special Category:         None           PI Email:         mpstosv@micropenlabs.com.brian.cne.im lo@nas.apox         Fax: FY 409-935-6705           PI Organization Type:         INDUSTRY         Phone: 409-935-6700           PI Address I:         90 37 Ecas Avenue         Fax: FY 409-935-6700           PI Address I:         90 37 Ecas Avenue         Fax: FY 409-935-6700           PI Address I:         90 37 Ecas Avenue         Fax: FY 409-935-6700           PI Address I:         1 Address I:         Project Type:         I A Marque         State: TX           City:         1 A Marque         State: TX         Project Type:           Start Date:         970/12004         End Date: 12/31/2008           No. of Post Docs: <td><b>y</b></td> <td></td> <td>. —</td> <td></td>	<b>y</b>		. —	
Program/Discipline-Element/Subdiscipline-Element/Subdiscipline-Element/Subdiscipline-Element/Subdiscipline-Dinit Agency Name:         TechPort:         No           Joint Agency Name:         TechPort:         No           Human Research Program Elements:         (1) HINC-Human Health Countermeasures           Human Research Program Risks:         (1) Immune Risk of Adverse Health Event Due to Altered Immune Response	Division Name:	Human Research		
Bement/Shadiscipline:   No.   TechPort:   No.	Program/Discipline:	HUMAN RESEARCH		
Human Research Program Elements: (I) HHC:Human Health Countermeasures  Human Research Program Risks: (I) Immune:Risk of Adverse Health Event Due to Altered Immune Response  Space Biology Cross-Element  Space Biology Special Category: None  PI Email: mstowe@microgenlabs.com.brian.erueian-1@nasa.gov Fax: FY 409-935-6705  PI Organization Type: INDUSTRY Phone: 409-935-6700  PI Address 1: 903 Texas Avenue  PI Address 2:  PI Web Page:  City: La Marque State: TX  Zip Code: 7568-3318 Congressional District: 22  Comments:  Project Type: FLIGHT Solicitation / Funding Solicitati		HUMAN RESEARCHOperational and clinical research		
Human Research Program Rislas:  Space Biology Element:  None  Space Biology Cross-Element  None  Space Biology Cross-Element  None  Space Biology Special Category:  None  PI Email:  pstowe@microgenlabs.com.brian.crucian-1@masa.gov  PI Organization Type:  INDUSTRY  Phone: 409-935-6705  PI Organization Name:  Microgen  PI Address 1:  903 Texas Avenue  PI Address 2:  PI Web Page:  City:  La Marque  State: TX  Zip Code:  77568-3318  Congressional District: 22  Comments:  Project Type:  State: DATE  Solicitation / Funding Solic	Joint Agency Name:		TechPort:	No
Space Biology Element: Space Biology Cross-Element Discipline: Space Biology Cross-Element Discipline: None  PI Email: postowe/dimicrogenlabs.com, brian enucian-1/2/mssa.gov Fax: FY 409-935-6705  PI Organization Type: INDUSTRY Phone: 409-935-6700  PI Organization Name: Microgen  PI Address I: PI Address S: PI Web Page: City: La Marque State: TX  Zip Code: 77568-3318 Congressional District: 22  Comments: Project Type: FLIGHT Solicitation / Funding Source: Source: Source: No. of Post Does: No. of Post Does: No. of Post Does: No. of Post Does: No. of Master's Candidates: No. of Master's Candidates: No. of Bachelor's Candidates: No. of Master's Candidates: Suzianne g. mecollum/Zinass.gov  Flight Assignment: Shutle/ISS Flight Assignment:  Key Personnet Changes/Previous PI: See also Barret for FY02-04 information/reports. COI Name (Institution): Preson, Duane L. (NASA Johnson Space Center) Formance Goal No.:	<b>Human Research Program Elements:</b>	(1) HHC:Human Health Countermeasures		
Space Biology Cross-Element Discipline:  Space Biology Special Category:  None  PI Email:  psotows@microgenlabs.com.brian.crucian-l@nass.gow  Fax: FY 409-935-6705  Pl Organization Type:  INDUSTRY  Microgen  Pl Address 1:  903 Texas Avenue  Pl Address 2:  Pl Web Page:  City:  La Marque  Type:  La Marque  Type:  Type:  TellGHT  Solicitation / Funding Source:  Start Date:  Or/01/2004  End Date: 12/31/2008  No. of PbD Candidates:  No. of PbD Degrees:  No. of Master's Candidates:  No. of Bachelor's Candidates:  No. of Bachelor	Human Research Program Risks:	(1) Immune: Risk of Adverse Health Event Due to Altered	Immune Response	
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PI Email:		None		
Pl Organization Name: Microgen  Pl Address 1: 993 Texas Avenue  Pl Address 2:	Space Biology Special Category:	None		
Organization Name:         Microgen           PI Address 1:         903 Texas Avenue           PI Address 2:         PI Web Page:           City:         La Marque         State: TX           Zjp Code:         77568-3318         Congressional District: 22           Comments:         Project Type:         FLIGHT         Solicitation / Funding Source: 98-HEDS-02           Start Date:         07/01/2004         End Date: 12/31/2008         No. of Pst Does: 12/31/2008           No. of Post Does:         1         No. of Master' Degrees: No. of Master' Degrees: No. of Master's Candidates: No. of Master's Candidates: No. of Bachelor's Degrees: No. of Bachelor's D	PI Email:	rpstowe@microgenlabs.com, brian.crucian-1@nasa.gov	Fax:	FY 409-935-6705
Pl Address 1: 903 Texas Avenue   Pl Address 2:   Pl Web Page:   City: La Marque   State: TX	PI Organization Type:	INDUSTRY	Phone:	409-935-6700
PI Address 2:  PI Web Page:  City: La Marque State: TX  Zip Code: 77568-3318 Congressional District: 22  Comments:  Project Type: FLIGHT Solicitation / Funding Source: 98-HEDS-02  Start Date: 07/01/2004 End Date: 12/31/2008  No. of Post Docs: 1 No. of PhD Candidates: No. of Master' Degrees:  No. of PhD Candidates: No. of Master' Degrees:  No. of Master's Candidates: No. of Master' Degrees:  No. of Bachelor's Candidates: No. of Bachelor's Degrees:  No. of Bachelor's Candidates: No. of Bachelor's Degrees:  No. of Master' Scandidates: No. of Bachelor's Degrees:  No. of Bachelor's Candidates: No. of Bachelor's Degrees: No. of Bachelor's Degrees:  No. of Bachelor's Candidates: No. of Bachelor's Degrees: No.	Organization Name:	Microgen		
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Zip Code: 77568-3318 Congressional District: 22  Comments:  Project Type: FLIGHT Solicitation / Funding Source: 98-HEDS-02  Start Date: 07/01/2004 End Date: 12/31/2008  No. of Post Docs: 1 No. of PhD Degrees: No. of Master' Degrees: No. of Master' Degrees: No. of Master's Candidates: No. of Master' Degrees: No. of Bachelor's Candidates: No. of Bachelor's Degrees: No. of Bachelor's Candidates: No. of Bachelor's Center: NASA JSC  Contact Monitor: McCollum, Suzanne Contact Phone: 281 483-7307  Contact Email: suzanne.g.mccollum@nasa.gov  Flight Program: Shuttle/ISS  STS-108,-109,-110,-111,-113,-114; ISS-5,-6 In flight development phase (data collection has begun)  Key Personnel Changes/Previous PI: Raymond Stowe replaced Alan Barrett as PI, effective July 2004 (per info from S. McCollum/M. Anderson, 12/2006). See also Barrett for FY02-04 information/reports.  COI Name (Institution): Pierson, Duane L (NASA Johnson Space Center)  Grant/Contract No.: NNJ06HB73A  Performance Goal No.:	PI Web Page:			
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No. of PhD Candidates:  No. of Master' Degrees:  No. of Master's Candidates:  No. of Bachelor's Degrees:  No. of Bachelor's Candidates:  Monitoring Center: NASA JSC  Contact Monitor:  McCollum, Suzanne Contact Email:  Suzanne.g.mccollum@nasa.gov  Flight Program:  Shuttle/ISS  STS-108, -109, -110, -111, -113, -114; ISS-5, -6 In flight development phase (data collection has begun)  Key Personnel Changes/Previous PI:  Raymond Stowe replaced Alan Barrett as PI, effective July 2004 (per info from S. McCollum/M. Anderson, 12/2006). See also Barrett for FY02-04 information/reports.  COI Name (Institution):  Pierson, Duane L (NASA Johnson Space Center)  Grant/Contract No.:  NNJ06HB73A  Performance Goal No.:	Start Date:	07/01/2004	End Date:	12/31/2008
No. of Master's Candidates:  No. of Bachelor's Degrees:  No. of Bachelor's Candidates:  Monitoring Center: NASA JSC  Contact Monitor:  McCollum, Suzanne  Contact Email:  Suzanne.g.mccollum@nasa.gov  Flight Program:  Shuttle/ISS  STS-108, -109, -110, -111, -113, -114; ISS-5, -6 In flight development phase (data collection has begun)  Key Personnel Changes/Previous PI:  Raymond Stowe replaced Alan Barrett as PI, effective July 2004 (per info from S. McCollum/M. Anderson, 12/2006). See also Barrett for FY02-04 information/reports.  COI Name (Institution):  Pierson, Duane L (NASA Johnson Space Center)  Grant/Contract No.:  NNJ06HB73A  Performance Goal No.:	No. of Post Docs:	1	No. of PhD Degrees:	
No. of Bachelor's Candidates: Monitoring Center: NASA JSC  Contact Monitor: McCollum, Suzanne Contact Email: Suzanne.g.mccollum@nasa.gov  Flight Program: Shuttle/ISS  STS-108, -109, -110, -111, -113, -114; ISS-5, -6 In flight development phase (data collection has begun)  Key Personnel Changes/Previous PI: Raymond Stowe replaced Alan Barrett as PI, effective July 2004 (per info from S. McCollum/M. Anderson, 12/2006). See also Barrett for FY02-04 information/reports.  COI Name (Institution): Pierson, Duane L (NASA Johnson Space Center)  Grant/Contract No.: NNJ06HB73A  Performance Goal No.:	No. of PhD Candidates:		No. of Master' Degrees:	
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Flight Program:  Shuttle/ISS  STS-108, -109, -110, -111, -113, -114; ISS-5, -6 In flight development phase (data collection has begun)  Key Personnel Changes/Previous PI: Raymond Stowe replaced Alan Barrett as PI, effective July 2004 (per info from S. McCollum/M. Anderson, 12/2006). See also Barrett for FY02-04 information/reports.  COI Name (Institution): Pierson, Duane L (NASA Johnson Space Center)  Grant/Contract No.: NNJ06HB73A  Performance Goal No.:	Contact Monitor:	McCollum, Suzanne	<b>Contact Phone:</b>	281 483-7307
STS-108, -109, -110, -111, -113, -114; ISS-5, -6 In flight development phase (data collection has begun)  Key Personnel Changes/Previous PI: Raymond Stowe replaced Alan Barrett as PI, effective July 2004 (per info from S. McCollum/M. Anderson, 12/2006). See also Barrett for FY02-04 information/reports.  COI Name (Institution): Pierson, Duane L (NASA Johnson Space Center)  Grant/Contract No.: NNJ06HB73A  Performance Goal No.:	Contact Email:	suzanne.g.mccollum@nasa.gov		
Flight Assignment:  ISS-5, -6 In flight development phase (data collection has begun)  Key Personnel Changes/Previous PI: Raymond Stowe replaced Alan Barrett as PI, effective July 2004 (per info from S. McCollum/M. Anderson, 12/2006). See also Barrett for FY02-04 information/reports.  COI Name (Institution): Pierson, Duane L (NASA Johnson Space Center)  Grant/Contract No.: NNJ06HB73A  Performance Goal No.:	Flight Program:	Shuttle/ISS		
COI Name (Institution): Pierson, Duane L (NASA Johnson Space Center)  Grant/Contract No.: NNJ06HB73A  Performance Goal No.:	Flight Assignment:			
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Performance Goal No.:	COI Name (Institution):	Pierson, Duane L ( NASA Johnson Space Center )		
	Grant/Contract No.:	NNJ06HB73A		
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## The majority of humans are infected with Epstein-Barr virus (EBV) early in life and thereafter carry the virus in a latent form. Reactivation of latent EBV may be an important threat to crew health during extended space missions. EBV is the causative agent of infectious mononucleosis as well as nasopharyngeal carcinoma, Burkitt's lymphoma, and different kinds of B-lymphocyte lymphomas in immunosuppressed individuals. Control of replication in vivo is mediated primarily by EBV- specific cytotoxic T-lymphocytes, and severe clinical symptoms have been associated with reactivation of latent viruses in patients with defective cellular immunity. Decreased cellular immune function has been reported both during and after space flight. Preliminary studies have demonstrated increased EBV shedding in saliva as well as increased antibody titers to EBV lytic proteins. Based on these observations, we hypothesize that the combined effects of microgravity along with associated physical and psychological stress will decrease EBV-specific T-cell **Task Description:** immunity and reactivate latent EBV in infected B- lymphocytes. The specific aims to test this hypothesis are: (1) determine if antibody titers to EBV-specific antigens are increased after space flight; (2) determine T-lymphocyte immunocompetence using a EBV-specific autologous T-cell killing assay; (3) characterize the viral burden and gene expression in peripheral blood cells using PCR/RT-PCR; and (4) measure stress hormones in plasma and urine. To determine the mechanisms underlying altered virus-specific T cell immunity and reactivation of latent EBV in B lymphocytes. See also <a href="http://www.nasa.gov/">http://www.nasa.gov/</a> **Rationale for HRP Directed Research:** This experiment will address fundamental questions on spaceflight and virus-specific immunity. One potential concern is the development of a virally associated disease or lymphoma within an infected individual. In addition, reinfection or transmission to a previously uninfected individual (resulting in primary infection) may be another concern. Thus, **Research Impact/Earth Benefits:** spaceflight may result in an increased frequency and/or severity of both primary and reactivated disease. If increased reactivation and clonal expansion of infected B- lymphocytes is detected, then pharmacological measures can be developed and instituted prior to onset of overt clinical disease. Raymond Stowe replaced Alan Barrett as PI, effective July 2004 (per info from S. McCollum/M. Anderson, 12/2006). See also Barrett for FY02-04 information/reports. Task Progress: [Ed. note: FY2004 record added to Task Book Jan 2010 for statistical purposes] **Bibliography Type:** Description: (Last Updated: 03/07/2019)