

Defense Health Program  
 Fiscal Year (FY) 2013 Budget Estimates  
 Exhibit R-2, DHP RDT&E Budget Item Justification

Appropriation/Budget Activity  
 Defense Health Program/BA: 2

DATE: February 2012  
 R1 Item Nomenclature: 4  
 Medical Technology (AFRRI)  
 0602787HP

COST: (Dollars in Millions)

	2011 Actual	2012 Estimate	2013 Estimate	2014 Estimate	2015 Estimate	2016 Estimate	2017 Estimate
<b>Total PE 0602787</b>	3.464	3.602	1.193	1.216	1.241	1.286	1.307
<b>Biodosimetry (USUHS)</b>	0.706	0.735	0.244	0.248	0.253	0.262	0.267
<b>Internal Contamination (USUHS)</b>	0.367	0.381	0.127	0.129	0.132	0.138	0.140
<b>Radiation Countermeasures (USUHS)</b>	2.391	2.486	0.822	0.839	0.856	0.886	0.900

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** For the Uniformed Services University of the Health Sciences (USUHS), Armed Forces Radiobiology Research Institute (AFRRI), this program supports developmental research to investigate new approaches that will lead to advancements in biomedical strategies for preventing, treating, assessing and predicting the health effects of human exposure to ionizing radiation. Program objectives focus on mitigating the health consequences from exposures to ionizing radiation that represent the highest probable threat to U.S. forces in current tactical, humanitarian and counterterrorism mission environments. New protective and therapeutic strategies will broaden the military commander's options for operating within nuclear or radiological environments by minimizing both short-and long-term risks of adverse health consequences. Advances in assessment, prognostication, and therapy in case of actual or suspected radiation exposures will enhance triage, treatment decisions and risk assessment in operational settings.

Defense Health Program  
 Fiscal Year (FY) 2013 Budget Estimates  
 Exhibit R-2, DHP RDT&E Budget Item Justification

Appropriation/Budget Activity  
 Defense Health Program/BA: 2

DATE: February 2012  
 R1 Item Nomenclature: 4  
 Medical Technology (AFRRI)  
 0602787HP

**B. PROGRAM CHANGE SUMMARY:**

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
FY13 Budget Estimate RDT&E	3.464	3.694	1.180	1.204
Change Proposal	0.000	0.000	0.013	0.012
SBIR	0.000	-0.092	0.000	0.000
FY13 Budget Submission RDT&E	3.464	3.602	1.193	1.216

**PROGRAM CHANGE SUMMARY EXPLANATION:**

FY 2011: No Change.

FY 2012: SBIR Transfer from DHP RDT&E, PE 0602787 - Medical Technology (AFRRI) (-\$0.092 million) to DHP RDT&E, PE 0605502 - Small Business Innovation Research (SBIR) program (+\$0.092 million).

FY 2013: Change Proposal for inflation adjustment to DHP RDT&E, PE 0602787 - Medical Technology (AFRRI) (+\$0.013 million).

FY 2014: Change Proposal for inflation adjustment to DHP RDT&E, PE 0602787 - Medical Technology (AFRRI) (+\$0.012 million).

**C. OTHER PROGRAM FUNDING SUMMARY:** None.

**D. ACQUISITION STRATEGY:** Not Required

**E. PERFORMANCE METRICS:**

By FY 2011 - screen a minimum of two promising new drugs and/or therapeutic approaches for radiation injury; elucidate mechanisms of radioprotection afforded by the tocol (Vitamin E) family of compounds; achieve characterization of the minipig as an effective large animal model for countermeasure studies; complete initial characterization of a high through-put method for DU biomarker evaluation in humans.

Defense Health Program  
Fiscal Year (FY) 2013 Budget Estimates  
Exhibit R-2, DHP RDT&E Budget Item Justification

Appropriation/Budget Activity  
Defense Health Program/BA: 2

DATE: February 2012  
R1 Item Nomenclature: 4  
Medical Technology (AFRRI)  
0602787HP

By FY 2012 - screen a minimum of two additional promising new countermeasures; use newly purchased linear accelerator to open new areas of inquiry in partial body and organ-specific pathophysiology and countermeasure response; complete toxicologic comparison of tocols to identify lead candidate; characterize levels of radiation biomarkers using a large cohort of healthy human adults to establish a multivariate biomarker baseline; develop at least one new candidate model/method for high throughput drug screening.

By FY 2013- Complete elucidation of mechanisms of 17-DMAG as a countermeasure in radiation injury combined with trauma, burns, or hemorrhagic shock; complete tocol mechanistic studies focused on lead candidate; continue partial body and organ specific model development; continue refinement of identified new candidate drug screening model/method.