XIII. Radioactive Materials

Section XIII of the 2004-2005 season plans lists the radioactive materials to be used and provides information regarding their form, nuclide, site, and specific use.

PROJECT	NUCLIDE	FORM	SITE	USE
B-002-N	^{3}H ^{35}S ^{14}C	^{3}H - Leucine ^{35}S - Methionine ^{14}C - DMSO ^{35}S - DMSP ^{14}C - DMSP	*R/V Nathaniel B. Palmer*	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea
B-006-M	^{14}C ^{3}H ^{35}S ^{32}P ^{33}P	^{14}C - Alanine ^{14}C - ATP ^{14}C - Sodium bicarbonate ^{14}C - Leucine ^{3}H - Lysine ^{3}H - Uridine ^{3}H - Histidine ^{14}C - Amino acid Mix ^{35}S - Methionine ^{32}P - ATP ^{33}P - ATP	McMurdo Station	Energetics of protein metabolism during development of Antarctic echinoderms
B-016-P/L	^{14}C	^{14}C - Sodium Bicarbonate	Palmer Station, *R/V Laurence M. Gould*	Palmer, Antarctica Long Term Ecological Research Project: Climate Migration, Ecological Response, and Teleconnections in an Ice-Dominated Environment (Phytoplankton Group)

PROJECT	NUCLIDE	FORM	SITE	USE
B-045-P/L	^{3}H	^{3}H – Thymidine/Leucine	Palmer Station *R/V Laurence M. Gould*	Palmer, Antarctica Long Term Ecological Research Project: Climate Migration, Ecological Response, and Teleconnections in an Ice-Dominated Environment
B-047-M	^{14}C	^{14}C – Sodium Bicarbonate	McMurdo Station, US Coast Guard *Polar Star*	Interannual Variability in the Antarctic Ross Sea: Nutrient Fields and Seasonal Productivity II
B-200-N	^{3}H	^{3}H - Thymidine/Leucine	*R/V Nathaniel B. Palmer*	Interactive effect of UV vertical mixing on phytoplankton and bacterial productivity of Ross Sea Phaeocystis bloom
B-203-N	^{14}C	^{14}C - Bicarbonate	*R/V Nathaniel B. Palmer*	Interactive effects of UV and vertical mixing and phytoplankton and bacteriplankton in the Ross Sea
B-300-M	^{3}H ^{14}C	^{3}H - Thymidine ^{14}C - Sodium bicarbonate	McMurdo Station	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island

PROJECT	NUCLIDE	FORM	SITE	USE
B-310-M	^{3}H	^{3}H - Thymidine	McMurdo Station/ Taylor Valley	What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley, Antarctica
B-420-M	^{226}Ra ^{209}Po	^{226}Ra – LSC Vials ^{209}Po – Aqueous in 0.5M HCl	McMurdo Station/ Dry Valleys	McMurdo Dry Valleys LTER
B-422-M	^{14}C ^{3}H	^{14}C – Bicarbonate ^{3}H – Thymidine	McMurdo Station/Dry Valleys	The Role of Natural Legacy on Ecosystem Function and Structure in a Polar Desert
B-423-M	^{14}C	^{14}C - Sodium Bicarbonate ^{14}C - Sucrose	McMurdo Station/ Dry Valleys	McMurdo Dry Valleys LTER
O-215-N	^{63}Ni	^{63}Ni – Foil	*R/V Nathaniel B. Palmer*	ANSLOPE - Cross slope exchanges at the Antarctic Slope Front (source is inside an electron capture detector of a gas chromatograph)
O-257-S	^{63}Ni	^{63}Ni – Foil	South Pole Station	South Pole Monitoring for Climatic Change -- U.S. Department of Commerce NOAA Climate Monitoring and Diagnostic Laboratory (source is inside an electron capture detector of a gas chromatograph)