

Primary Productivity History

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 Last Updated: 21 February 2017

PRIMARY PRODUCTIVITY CHANGES

A description of the method was written February 2010 by D. Wolgast. Changes to the method are listed below.

Radioactive Specific Activity Changes

Section	Date	Prepared By	Description
3.3	6/10/2016	D. Wolgast	25mCi diluted to 32uCi/ml Batch 0509YW4, 800mls
3.3	8/8/2014	D. Wolgast	New 14C Stock: diluted to 69.40uCi/ml; Batch 0500ZV4 (replaces 0509G57 orig. UCSD barcode), used for (1411) November 2014 to present
3.3	9/8/2010	D. Wolgast & D. Faber	New 14C Stock: diluted to 308.37uCi/ml; Source: MP Biomedicals, barcode 0508YD5, used for (1011) September 2010 until July 2014 (1407)
3.3	12/15/2008	D. Wolgast & D. Faber	New 14C Stock: diluted to 284.23 uCi/ml; Source: MP Biomedicals, batch 081215, used for (0901) January 2009 until August 2010 (1008)
3.3	3/9/2007	D. Wolgast & J. Sheldon	New 14C Stock: diluted to 271.32 uCi/ml; Source: MDS Nordion, batch 070308, used for (0704) April 2007 until November 2008 (0810)
3.3	6/23/2005	D. Wolgast	New 14C Stock: diluted to 335.90 uCi/ml; Source: MP Biomedicals, batch 0506, used for (0507) July 2005 until January 2007 (0701)
3.3	4/5/2005	D. Wolgast	New 14C Stock: diluted to 215.76 uCi/ml; Source: MP Biomedicals, used for (0504) April 2005
3.3	10/25/2004	D. Wolgast	New 14C Stock: diluted to 2351.46uCi/ml; Batch 0411, used for (0411) November 2004 until January 2005 (0501)
3.3	3/3/2004	J. Sheldon	New 14C Stock: diluted to 75.03 uCi/ml; Source: ICN Biomedicals, batch 0402, used for (0403) March 2004 until July 2004 (0407)
3.3	Mar-03	D. Wolgast	New 14C Stock: diluted to 41.48 uCi/ml; Source: ICN Biomedicals, batch 0324, used for (0304) April 2003 until January 2004 (0401)
3.3	Mar-03	D. Wolgast	New 14C Stock: diluted to 42.38 uCi/ml; Source: ICN Biomedicals, batch 0302, used for (0204) April 2002 until February 2003 (0302)
3.3	11/17/1995	D. Wolgast	New 14C Stock: diluted to 51.45 uCi/ml; Source: ICN Biomedicals, batch 03Z58 used for Nov 1995 until January 2002 (0201)

Radioactivity added

Cruise	Radioactivity added uCi	Comments
1704		
1701	5.89	
1611	6.58	
1607	6.63	New Batch 0509YW4
1604	9.26	
1601	8.64	
1511	10.36	
1507	11.64	
1504	12.18	
1501	8.74; 8.08	Due to the decreasing activity of the isotope stock through the cruise the prodo samples were processed in two batches.
1411	10.21	
1407	7.783	
1404	9.481	
1402	9.47	
1311	10.239	
1307	11.47	
1304	11.03	
1301	11.28	
1210	Varied	
1207	27.68; 12.95	
1203	12.69	

Cruise	Radioactivity added μCi	Comments
1202	12.36	
1110	11.76; 10.15	Due to the decreasing activity of the isotope stock through the cruise the prodo samples were processed in two batches.
1108	13.78	
1104	6.992	
1101	49.66	
1011	50.64	
1008	25.6	
1004	40.05	
1001	40.6	
0911	43.19	
0907	43.38	
0903	45.75	
0901	46.59	
0810	40.27	
0808	44.36	
0804	45.8	
0801	52.29	
0711	47.95	
0707	48.55	
0704	53.14	
0701	44	
0610	56.1	
0607	63.1	
0604	59.1	
0602	59.1	
0511	59.1	
0507	64.74	
0504	41.58	
0501		Variable due to problems with acid/Teflon and bicarbonate substrate.
0411	32.3-41.66	Transition to higher activity to facilitate DO14C assay.
0407	15	
0404	15	
0401	8.3	
0310	8.3	
0307	8.3	
0304	8.3	
0302	8.48	
0211	8.48	
0207	8.48	
0204	8.48	Stock diluted and stored in cleaned polycarbonate and Teflon
0201	11.3	Stock in glass sealed ampoules
0110	11.3	Stock in glass sealed ampoules
0107	11.3	Stock in glass sealed ampoules
0104	11.3	Stock in glass sealed ampoules
0101	11.3	Stock in glass sealed ampoules
0010	11.3	Stock in glass sealed ampoules
0007	11.3	Stock in glass sealed ampoules
0004	11.3	Stock in glass sealed ampoules
0001	11.3	Stock in glass sealed ampoules
9910	11.3	Stock in glass sealed ampoules
9908	11.3	Stock in glass sealed ampoules
9904	11.3	Stock in glass sealed ampoules
9901	11.3	Stock in glass sealed ampoules

Methodological Changes

Section	Date	Author	Description

Section	Date	Author	Description
	Apr-05	D. Wolgast	The procedure for calculating cruise 14C specific activity for the productivity assay was changed to reflect daily 14C additions averaged over the course of a cruise. the six dark bottles have one milliliter removed, added to ethanolamine spiked scintillation cocktail for counting. Previously specific activity was calculated for a batch of stock and used for the entire cruise. The new method served to check pipeting, inoculation amounts and any changes in volatile 14C stocks.
0411		D. Wolgast	Transition to higher activity to facilitate DO14 C assay, 10ml split removed from samples for 14 C