

Supplemental Table 1. itG <sup>68</sup>Ge/<sup>68</sup>Ga elution parameters

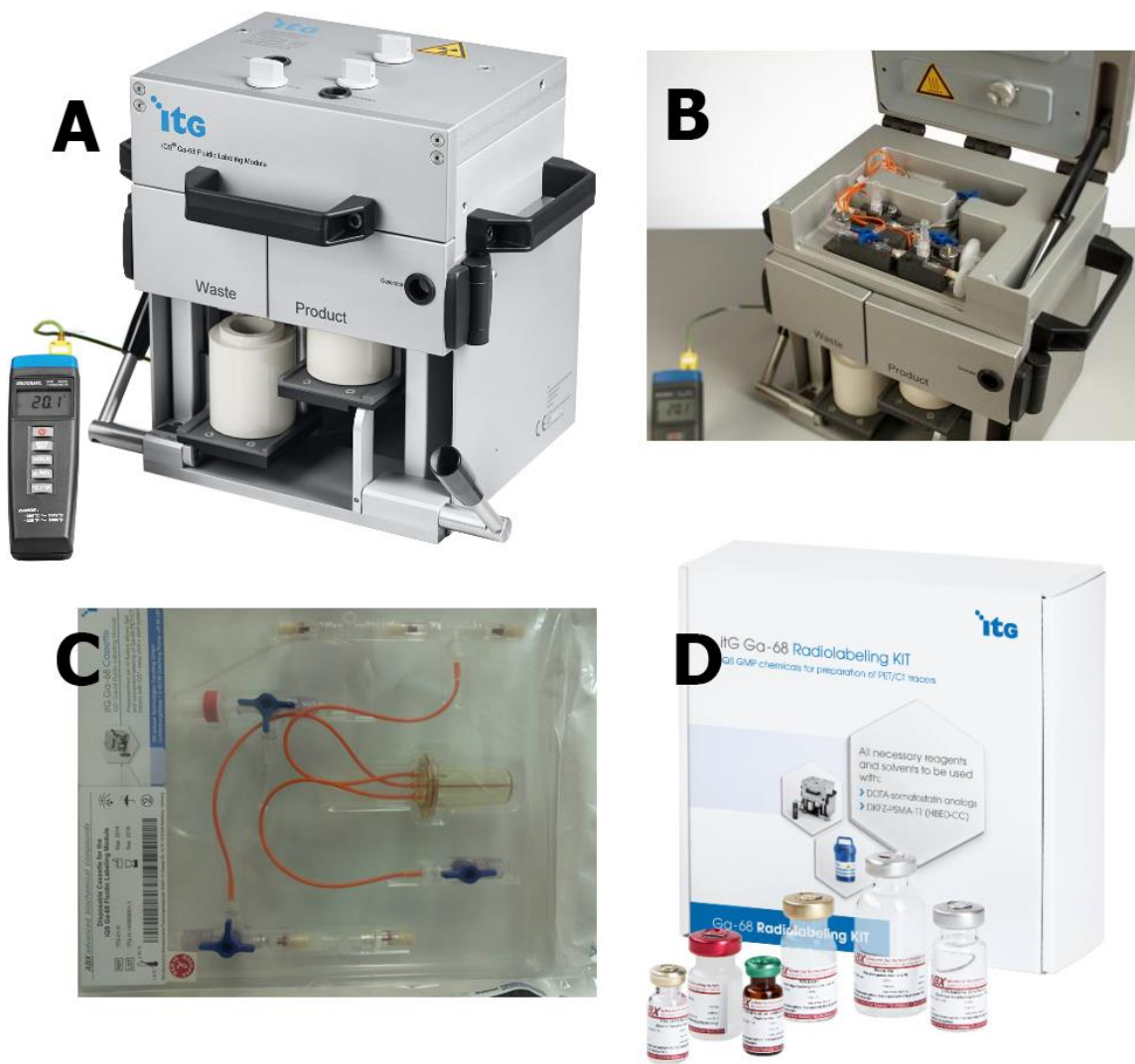
<b><u><sup>68</sup>Ge/<sup>68</sup>Ga Generator Use</u></b>								
Generator Lot:	GaG 14-049			Calibration Date	Manufacturer	Expiry		
Calibration:	55.135	mCi		6/12/2014	ITG, Germany	6/12/2015		
	2040	MBq						
Generator will be eluted with 0.05 M HCl (6 mL) once a week for performance evaluation								
<sup>68</sup> Ga activity measured in a Capintec Dose Calibrator								
<sup>68</sup> Ge break through determined 24 hours after the total decay of <sup>68</sup> Ga activity								
Date of Elution	Time	<sup>68</sup> Ge (mCi)	Vol HCl (mL)	<sup>68</sup> Ga		<sup>68</sup> Ga yield (%)	<sup>68</sup> Ge Leakage*	
				Eluted Activity (mCi)	mCi/mL		(μCi)	% Ge-68
7/7/2014	10:00	51.67	6.0	45.34	7.56	87.7	2.91	0.0056
7/8/2014	10:05	51.538	6.0	49.03	8.17	95.1	2.62	0.0051
7/8/2014	2:30	51.538	6.0	47.62	7.94	92.4	3.09	0.0060
7/14/2014	10:10	50.753	6.0	47.47	7.91	93.5	2.58	0.0051
7/21/2014	10:00	49.853	6.0	46.25	7.71	92.8	2.46	0.0049
7/28/2014	10:00	48.968	6.0	45.66	7.61	93.2	2.61	0.0053
8/19/2014	10:15	46.29	6.0	42.01	7.00	90.8	2.2	0.0048
8/25/2014	11:00	45.585	6.0	41.71	6.95	91.5	2.39	0.0052
9/2/2014	10:30	44.678	6.0	39.905	6.65	89.3	2.29	0.0051
9/8/2014	9:00	44.006	6.0	38.884	6.48	88.4	2.21	0.0050
9/15/2014	9:45	43.222	6.0	37.348	6.22	86.4	2.15	0.0050
9/22/2014	15:00	42.455	6.0	37.948	6.32	89.4	2.05	0.0048
9/29/2014	15:00	41.678	6.0	37.276	6.21	89.4	1.98	0.0048
10/6/2014	13:30	40.946	6.0	35.927	5.99	87.7	2.01	0.0049
10/13/2014	14:00	40.217	6.0	35.214	5.87	87.6	1.81	0.0045
10/20/2014	14:30	39.501	6.0	34.395	5.73	87.1	1.77	0.0045
10/27/2014	14:20	38.801	6.0	33.958	5.66	87.5	1.68	0.0043
11/3/2014	15:00	38.11	6.0	32.797	5.47	86.1	1.6	0.0042
11/10/2014	15:00	37.434	6.0	31.88	5.31	85.2	1.78	0.0048
11/14/2014	13:00	37.061	6.0	31.385	5.23	84.7	1.51	0.0041
11/17/2014	11:30	36.784	6.0	30.53	5.09	83.0	1.5	0.0041
11/25/2014	9:30	36.047	6.0	30.79	5.13	85.4	1.43	0.0040
12/1/2014	9:30	35.498	6.0	29.74	4.96	83.8	1.39	0.0039
12/9/2014	3:30	34.757	6.0	29.24	4.87	84.1	1.33	0.0038
12/18/2014	10:00	33.986	6.0	27.23	4.54	80.1	1.13	0.0033
12/23/2014	13:30	33.541	6.0	27.67	4.61	82.5	1.1	0.0033
12/29/2014	13:40	33.03	6.0	27.25	4.54	82.5	1.09	0.0033

<b>1/5/2015</b>	10:30	32.455	6.0	26.08	4.35	80.4	1.03	0.0032
<b>1/7/2015</b>	10:20	32.29	6.0	25.43	4.24	78.8	0.94	0.0029
<b>1/13/2015</b>	9:30	31.801	6.0	25.6	4.27	80.5	0.9	0.0028
<b>1/15/2015</b>	14:30	31.622	6.0	25.44	4.24	80.5	0.83	0.0026
<b>1/20/2015</b>	12:00	31.229	6.0	25.22	4.20	80.8	0.8	0.0026
<b>1/21/2015</b>	14:30	31.141	6.0	25.26	4.21	81.1	0.81	0.0026
<b>1/22/2015</b>	15:00	31.06	6.0	24.05	4.01	77.4	0.76	0.0024
<b>1/26/2015</b>	10:00	30.76	6.0	24.09	4.02	78.3	0.73	0.0024
<b>1/30/2015</b>	11:00	30.444	6.0	23.79	3.97	78.1	0.73	0.0024
<b>2/2/2015</b>	14:45	30.199	6.0	23.85	3.98	79.0	0.69	0.0023
<b>2/3/2015</b>	15:30	30.119	6.0	23.51	3.92	78.1	0.69	0.0023
<b>2/4/2015</b>	15:30	30.042	6.0	23.61	3.94	78.6	0.66	0.0022
<b>2/5/2015</b>	15:45	29.9649	6.0	23.36	3.89	78.0	0.69	0.0023
<b>2/10/2015</b>	15:30	29.585	6.0	22.66	3.78	76.6	0.6	0.0020
<b>2/11/2015</b>	15:20	29.51	6.0	22.52	3.75	76.3	0.58	0.0020
<b>2/18/2015</b>	10:30	29.001	6.0	22.48	3.75	77.5	0.58	0.0020
<b>2/19/2015</b>	15:45	28.911	6.0	22.1	3.68	76.4	0.59	0.0020
<b>2/20/2015</b>	15:30	28.838	6.0	21.8	3.63	75.6	0.55	0.0019
<b>2/23/2015</b>	10:00	28.634	6.0	22.4	3.73	78.2	0.53	0.0019
<b>2/24/2015</b>	14:45	28.547	6.0	22.01	3.67	77.1	0.52	0.0018
<b>2/25/2015</b>	14:20	28.475	6.0	21.27	3.55	74.7	0.5	0.0018
<b>2/26/2015</b>	14:30	28.402	6.0	21.22	3.54	74.7	0.5	0.0018
<b>3/3/2015</b>	15:30	28.038	6.0	21.97	3.66	78.4	0.48	0.0017
<b>3/6/2015</b>	14:30	27.827	6.0	20.79	3.47	74.7	0.48	0.0017
<b>3/10/2015</b>	10:20	27.556	6.0	21.22	3.54	77.0	0.48	0.0017
<b>3/16/2015</b>	14:30	27.124	6.0	20.84	3.47	76.8	0.44	0.0016
<b>3/20/2015</b>	15:25	26.846	6.0	20.55	3.43	76.5	0.43	0.0016
<b>3/25/2015</b>	16:15	26.502	6.0	20.23	3.37	76.3	0.43	0.0016
<b>3/31/2015</b>	15:20	26.101	6.0	19.65	3.28	75.3	0.43	0.0016
<b>4/2/2015</b>	15:35	25.967	6.0	19.6	3.27	75.5	0.41	0.0016
<b>4/6/2015</b>	15:20	25.704	6.0	19.82	3.30	77.1	0.41	0.0016
<b>4/8/2015</b>	14:55	25.574	6.0	18.93	3.16	74.0	0.4	0.0016
<b>4/13/2015</b>	16:00	25.246	6.0	19.01	3.17	75.3	0.4	0.0016
<b>4/16/2015</b>	9:30	25.07	6.0	18.42	3.07	73.5	0.38	0.0015
<b>4/21/2015</b>	14:05	24.74	6.0	18.41	3.07	74.4	0.39	0.0016
<b>4/24/2015</b>	13:20	24.553	6.0	18.39	3.07	74.9	0.37	0.0015
<b>4/27/2015</b>	13:00	24.366	6.0	17.99	3.00	73.8	0.36	0.0015
<b>4/28/2015</b>	13:40	24.302	6.0	18.02	3.00	74.2	0.35	0.0014
<b>4/29/2015</b>	16:00	24.234	6.0	17.71	2.95	73.1	0.33	0.0014
<b>4/30/2015</b>	14:00	24.177	6.0	17.47	2.91	72.3	0.33	0.0014
<b>5/4/2015</b>	15:20	23.928	6.0	18.15	3.03	75.9	0.33	0.0014
<b>5/5/2015</b>	14:10	23.87	6.0	17.64	2.94	73.9	0.31	0.0013
<b>5/6/2015</b>	15:10	23.806	6.0	17.13	2.86	72.0	0.32	0.0013

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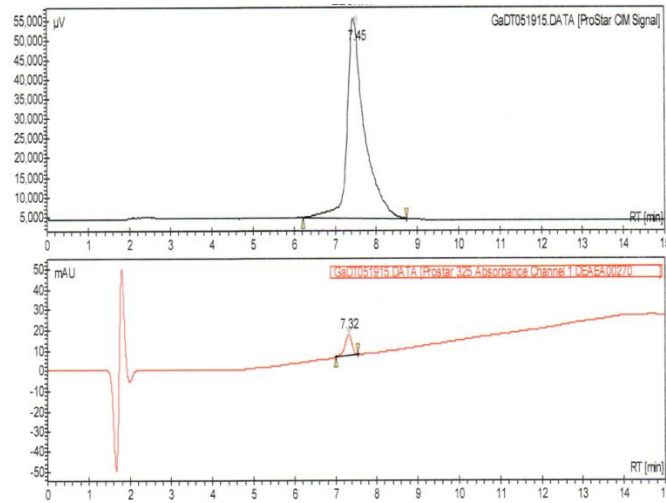
<b>5/11/2015</b>	10:30	23.515	6.0	17.47	2.91	74.3	0.31	0.0013
<b>5/12/2015</b>	13:45	23.447	6.0	17.07	2.85	72.8	0.3	0.0013
<b>5/18/2015</b>	13:30	23.091	6.0	17.12	2.85	74.1	0.28	0.0012

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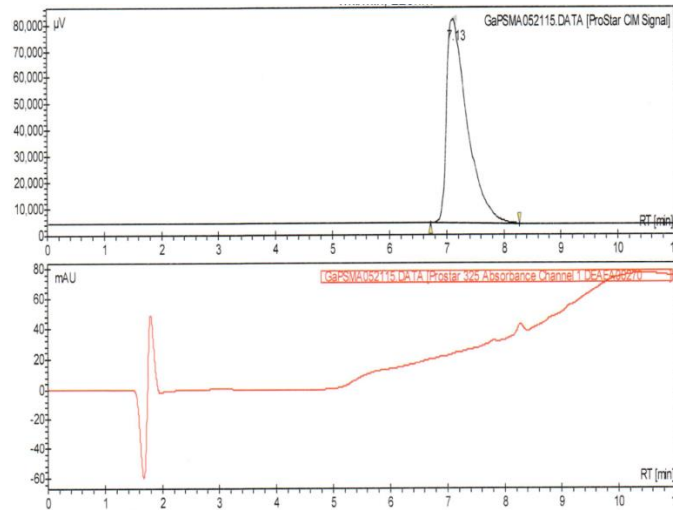


Supplemental Fig. 1.  $^{68}\text{Ga}$  Labeling System. A: IQS labeling Module; IQS Module with open top exposing the fluidics; C: Fluidic Cassette supplied by ITM-AG; and D: Peptide labeling kit supplied by ITM-AG

**A**



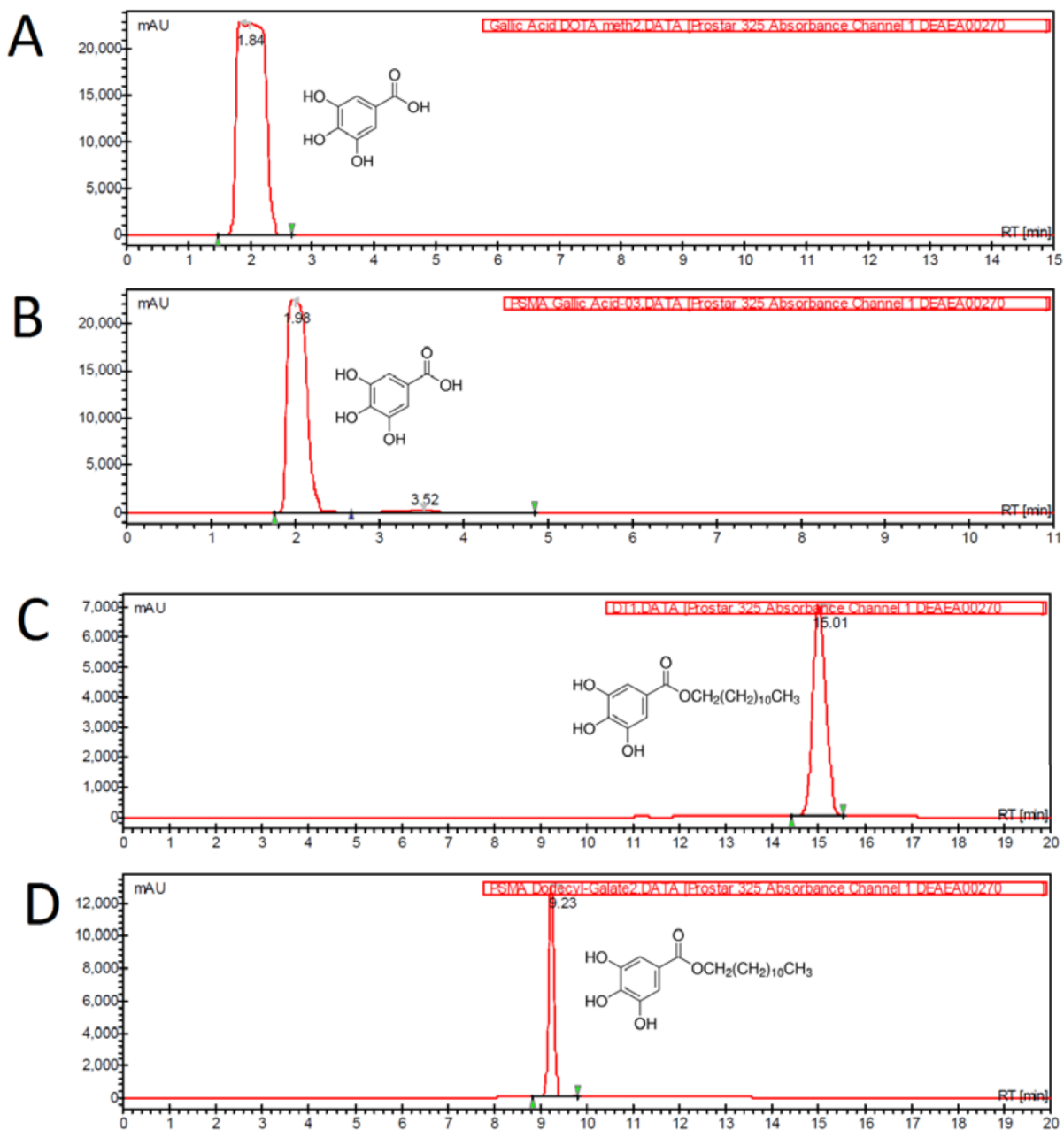
**B**



Supplemental Fig 2. Quality Control HPLC of two random drug products A:  $^{68}\text{Ga}$ -DOTATOC and B:  $^{68}\text{Ga}$ -PSMA-HBED-CC.

Supplemental Table 2. HPLC Conditions for HPLC Quality Control:

Column			Flow	Solvent A	Solvent B
Waters NovaPak C18 4.6 x 150 mm			1 ml/min	0.1% TFA in H <sub>2</sub> O	0.1% TFA in MeCN
<sup>68</sup> Ga-DOTATOC			<sup>68</sup> Ga-PSMA-HBED-CC		
Time	%A	%B	Time	%A	%B
0:00	82	18	0:00	100	0
2:00	82	18	2:00	100	0
11:00	40	60	8:00	0	100
14:00	40	60	10:00	0	100
15:00	82	18	11:00	100	0



Supplemental Fig 3. HPLC retention time of possible  $^{68}\text{Ge}/^{68}\text{Ga}$  generator radiolysis products: A: Gallic Acid using the  $^{68}\text{Ga}$ -DOTATOC HPLC QC method; B: Gallic Acid using the  $^{68}\text{Ga}$ -PSMA-HBED-CC HPLC QC method; C: Dodecyl Gallate using the  $^{68}\text{Ga}$ -DOTATOC HPLC QC method; and D: Dodecyl Gallate using the  $^{68}\text{Ga}$ -PSMA-HBED-CC HPLC QC method.