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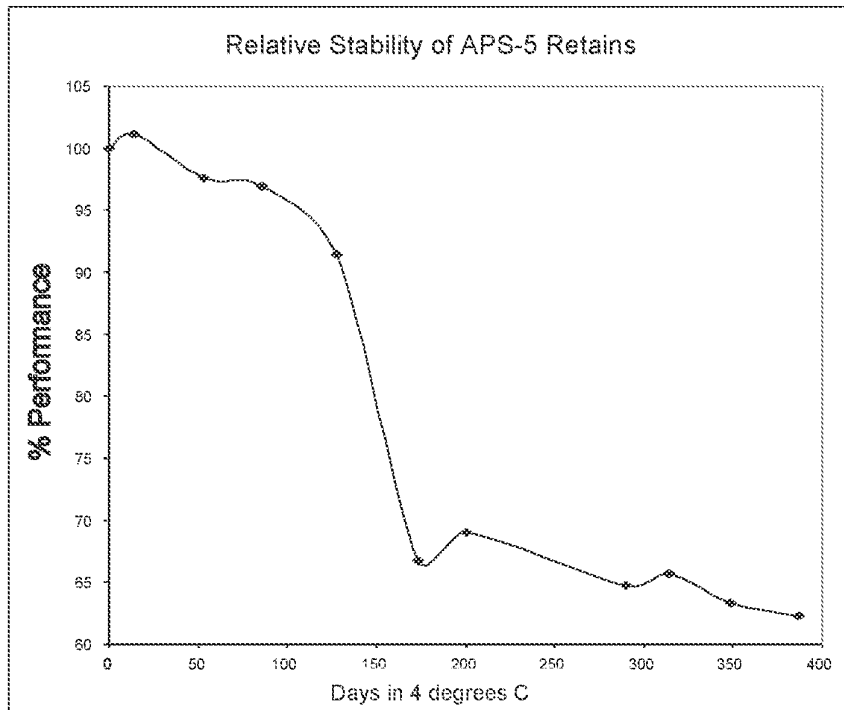


FIG. 1

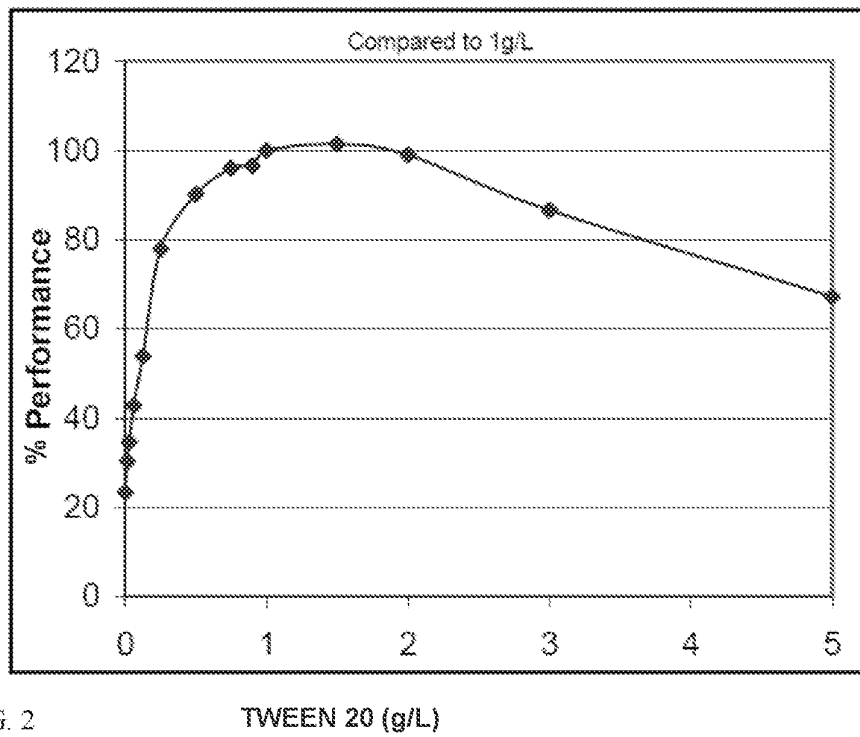


FIG. 2

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APS-5 Formulations with Brij 700 (Scan 2)

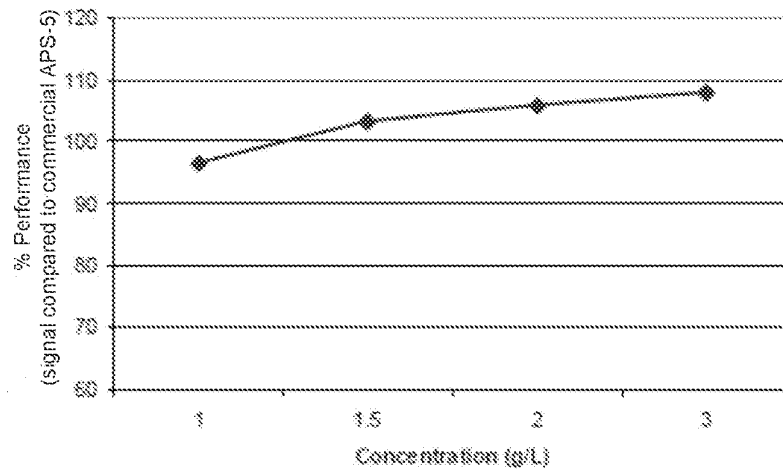


FIG. 3

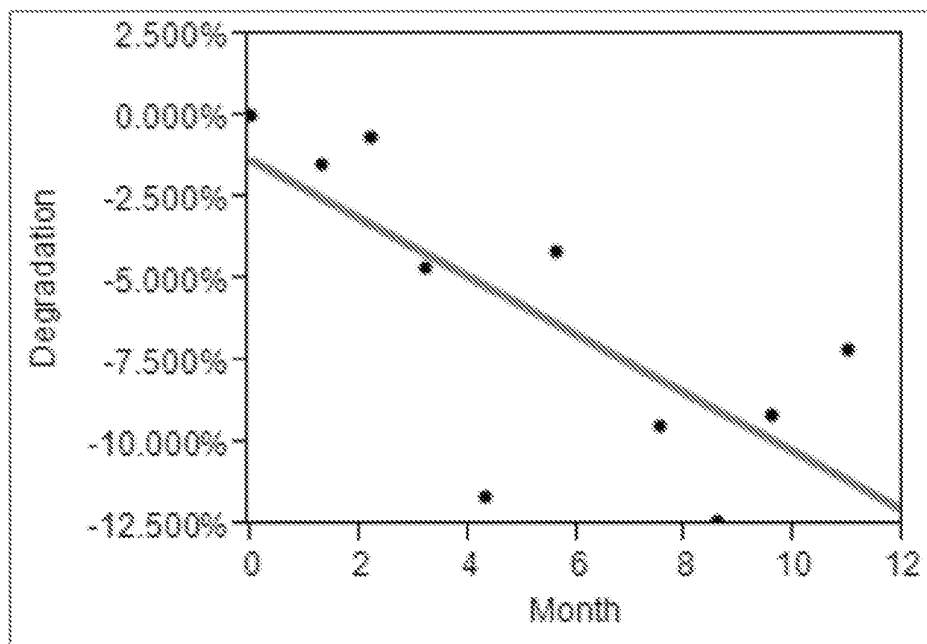


FIG. 4

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Assay	Format	Conjugate pH	Other Info
AccuTnl+3	Sandwich-Piggyback	ACES pH 6.0	4% BSA & 2.5% chemical in PMP REC ALP
Old BHCG	Sandwich-1 step	Tris pH 7.1	
NEW BHCG5	Sandwich-Piggyback	Tris pH 7.1	REC ALP
TSH	Sandwich-1 step	Tris pH 7.4	
TSH2	Sandwich-1 step	ACES pH 6.0	REC ALP
CK-MB	Sandwich-1 step	Sod Phos pH 5.9	0.006% Dextran sulfate in PMP
Myoglobin	Sandwich-1 step	Sod Phos pH 6.0	Antibody not coupled to PMP
Digoxin	Competitive-1 step	Tris, pH 8.05	
PTH (IO)	Sandwich-1 step	ACES pH 7.0	20% sucrose, 0.2% plurafac

FIG. 5

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Sample	Assigned Conc. (ng/mL)	Digoxin											
		LP-530				SMS-PEG				SMS-Triton			
		L5		L2		L5		L2		L2		L5	
		Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV
S0	0	2,228,650	3.12	1,860,492	3.64	1,777,889	3.69	1,542,138	1.22	1,255,630	1.33		
S1	0.52	1,210,291	2.21	965,358	1.70	925,528	2.69	819,110	2.16	675,864	1.79		
S2	1.05	725,599	2.68	600,232	1.78	573,813	1.09	504,611	2.16	424,819	1.93		
S3	2.02	384,812	1.92	318,731	2.73	312,184	2.64	262,327	2.20	228,649	1.64		
S4	4.27	189,173	1.41	139,936	5.94	140,731	5.10	122,056	3.23	111,344	3.64		
S5	5.9	125,117	3.51	95,454	3.37	98,392	2.43	81,422	3.08	74,845	2.59		
BioRad Liquichek 1		811,411	7.44	624,182	1.25	593,946	1.23	571,089	2.82	464,042	2.94		
BioRad Liquichek 2		454,199	3.76	301,493	2.31	288,763	2.71	303,009	6.86	254,421	6.45		
BioRad Liquichek 3		292,939	2.21	188,833	3.56	184,179	2.84	209,387	2.82	177,585	2.47		
Serum Pool 1		514,616	2.96	454,248	3.20	436,149	2.91	376,970	4.33	316,738	4.29		
Serum Pool 2		198,121	1.65	165,325	2.68	162,801	3.17	141,265	4.80	122,559	4.66		

FIG. 6A

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Sample	Assigned Conc. (pg/mL)	PTH (IO)									
		LP-530			SMS-PEG			SMS-Triton			
		L5		L2		L5		L2		L5	
		Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV
S0	0	10,584	1.14	4,518	2.36	5,796	2.48	3,948	2.73	4,712	2.38
S1	9.7	21,230	1.50	13,277	2.13	17,943	2.97	9,968	2.18	12,013	3.35
S2	57.5	76,431	2.98	57,186	3.12	78,141	2.83	40,864	2.26	49,264	2.00
S3	289	321,458	2.99	271,588	2.37	377,684	0.71	180,147	2.63	217,273	4.24
S4	1481	1,503,816	4.99	1,232,218	2.93	1,724,140	2.61	861,223	3.22	1,039,140	2.40
S5	3458	3,435,685	2.52	2,753,315	2.34	3,924,670	2.50	1,958,194	3.78	2,411,363	3.02
BioRad Specialty LTA		28,695	7.99	26,748	1.76	31,155	1.86	17,197	1.48	19,829	2.22
BioRad Specialty 1		31,271	3.17	27,903	2.81	32,532	2.52	17,600	6.50	20,521	7.96
BioRad Specialty 2		206,045	5.11	219,594	4.96	254,507	4.48	131,449	3.21	152,837	2.58
BioRad Specialty 3		576,989	4.68	606,889	2.22	718,550	2.12	375,589	3.31	437,282	2.20
SerumPool 1		33,086	2.30	24,677	4.93	30,108	6.06	17,152	4.52	21,337	3.25
Serum Pool 2		211,252	4.01	192,571	1.97	239,974	1.58	129,097	1.39	160,051	1.41

FIG. 6B

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Sample	Assigned Conc. (mIU/L)	TSH									
		LP-530				SMS-PEG				SMS-Triton	
		L5		L2		L5		L2		L2	
		Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV
S0	0	10,365	1.81	4,445	3.43	4,662	2.20	3,981	3.51	4,349	2.24
S1	0.104	50,909	3.34	55,436	3.29	61,836	1.20	37,853	2.09	45,820	1.45
S2	0.5	209,929	1.88	272,641	2.70	286,886	2.91	170,656	1.25	206,481	1.19
S3	4	1,506,408	3.44	2,088,507	3.54	2,210,526	3.18	1,286,767	2.10	1,547,491	0.89
S4	9.8	3,602,852	1.46	4,778,050	1.87	5,129,173	0.91	3,038,600	2.00	3,650,953	1.59
S5	100	21,400,903	1.48	26,441,609	0.40	26,786,552	1.36	19,785,138	1.38	21,954,945	1.55
BioRad QC 1		274,535	6.46	351,902	8.47	399,907	6.23	229,006	4.03	281,541	4.86
BioRad QC 2		1,752,409	2.19	2,288,521	3.30	2,613,500	2.58	1,538,493	2.92	1,891,374	1.91
BioRad QC 3		6,767,267	2.66	8,812,593	3.16	9,711,847	1.67	6,132,723	3.06	7,309,848	2.35
Serum Pool 1		232,309	3.56	342,523	4.87	379,159	3.97	197,435	4.04	241,403	2.52
Serum Pool 2		4,119,141	1.71	5,797,598	3.35	6,279,695	1.99	3,634,123	1.98	4,385,902	1.25

FIG 6C

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Sample	Assigned Conc. (mIU/L)	TSH2						SMS-PEG						SMS-Triton					
		LP-530			L2			L5			L2			L5			L2		
		L5		% CV	Mean RLU		% CV	Mean RLU		% CV	Mean RLU		% CV	Mean RLU		% CV	Mean RLU		% CV
S0	0	8,578		1.71	3,249		3.10	2,909		3.2	3,584		1.78	3,172		2	3,584		1.78
S1	0.05	84,429		2.22	74,925		4.33	59,273		2.4	51,546		0.74	44,285		0.6	44,285		0.74
S2	0.3	451,620		0.88	401,261		4.24	322,641		3.5	285,822		2.51	244,598		2.2	244,598		2.51
S3	3	4,069,764		1.05	3,786,580		2.62	3,114,349		2.6	2,719,723		3.44	2,332,441		2.3	2,332,441		3.44
S4	15	16,366,901		2.51	16,363,712		2.90	13,603,846		1.1	11,937,677		3.46	10,579,646		1.8	10,579,646		3.46
S5	50	34,028,794		4.93	34,529,440		1.08	29,000,305		0.3	29,603,190		1.57	26,955,063		0.6	26,955,063		1.57
BioRad QC 1		1,188,027		1.67	996,777		1.97	846,130		2	752,195		1.52	658,325		1.8	658,325		1.52
BioRad QC 2		7,112,755		3.34	6,834,600		5.26	5,792,688		3	5,289,908		2.42	4,670,096		1.4	4,670,096		2.42
BioRad QC 3		22,880,749		2.24	23,479,184		2.37	19,549,719		1.4	18,573,231		3.84	17,203,790		1.4	17,203,790		3.84
Serum Pool 1		930,753		2.03	995,467		3.57	873,369		9.5	623,833		5.16	580,736		1.9	580,736		5.16
Serum Pool 2		14,094,641		1.83	14,479,773		3.64	11,996,209		2.4	10,861,394		1.89	9,551,410		1.3	9,551,410		1.89

FIG 6D

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Sample	Assigned Conc. ng/ml	AccuTnI+3									
		LP-530		SMS-PEG			SMS-Triton				
		L5		L2		L5		L2		L5	
		Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV
S0	0	10,460	2.42	2,643	5/07	2,918	3.82	2,274	5.72	2,194	3.56
S1	0.228	73,555	3.22	25,906	1.39	23,774	1.36	19,293	1.72	18,098	1.04
S2	0.937	274,265	1.02	98,822	2.00	88,998	1.15	72,924	1.17	68,566	1.42
S3	3.77	1,085,007	0.60	403,930	2.73	360,812	1.49	298,775	1.01	279,867	1.24
S4	20.4	5,369,419	0.67	1,958,916	1.31	1,788,966	1.51	1,528,124	2.07	1,433,081	1.90
S5	76	16,122,355	0.91	6,733,092	2.60	6,399,896	0.93	5,153,890	2.02	4,905,487	1.80
BioRad Card- 01		100,190	2.24	41,285	3.75	34,645	3.36	30,003	1.20	24,846	1.96
BioRad Card- 02		538,877	2.37	228,442	1.90	191,105	1.90	171,390	3.19	140,323	3.25
BioRad Card- 03		2,207,905	1.74	929,151,	3.78	777,297	2.83	723,278	3.22	590,197	2.92
Pool-Low		45,943	4.14	22,203	3.23	19,390	4.08	17,386	2.41	14,649	2.78
Pool High		531,555	2.42	289,135	1.74	239,917	1.57	221,521	2.06	181,955	2.53
Negative Serum-ALL		10,924	7.22	3,293	14.49	3,410	10.62	2,860	12.21	2,575	10.16

FIG. 6E

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Sample	Assigned Conc. (pg/mL)	BNP									
		LP-530			SMS-PEG			SMS-Triton			
		L5		L2		L5		L2		L5	
		Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV
S0	0	10,480	1.57	3,704	2.21	4,355	2.44	3,248	1.89	3,898	2.42
S1	28.5	79,172	1.96	61,573	1.08	75,436	0.17	50,572	2.07	60,364	2.02
S2	113.6	281,627	2.46	237,091	2.63	289,386	1.70	196,774	3.12	233,341	2.86
S3	501	1,503,268	1.34	1,308,204	0.61	1,626,445	0.28	1,017,657	2.41	1,191,215	2.13
S4	2442	9,106,724	1.44	8,490,458	0.95	10,396,829	1.07	6,462,696	1.52	7,416,289	1.70
S5	4929	17,238,997	2.03	17,150,937	4.59	20,036,722	2.99	13,346,271	1.37	15,521,725	0.82
BioRad QC 1		232,020	3.19	178,354	0.74	218,710	1.34	152,408	4.83	181,545	4.21
BioRad QC 2		1,200,981	1.17	924,925	2.53	1,146,622	1.14	811,004	1.93	948,586	1.73
BioRad QC 3		7,575,614	3.59	6,823,392	1.41	8,601,741	1.44	5,588,089	2.03	6,363,334	1.37
Serum Pool 1		57,599	1.30	24,433	2.84	26,739	1.70	20,203	3.44	23,699	3.50
Serum Pool 2		617,273	2.22	334,891	2.55	334,802	1.59	251,997	2.21	284,123	2.70

FIG. 6F

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Sample	Assigned Conc. ($\mu\text{g/L}$)	CK-MB											
		LP-530				SMS-PEG				SMS-Triton			
		L5		L2		L5		L2		L2		L5	
		Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV
S0	0	12,043	1.12	3,341	3.69	3,780	2.38	3,228	2.90	3,688	2.66		
S1	2.9	136,353	0.99	93,972	1.88	101,270	1.68	65,715	1.83	74,741	1.38		
S2	9.8	434,703	2.31	317,287	2.96	337,607	3.44	209,574	4.41	236,856	4.60		
S3	29.5	1,290,773	0.59	933,036	2.16	999,806	1.25	620,773	2.03	697,684	2.13		
S4	99	4,467,294	2.15	3,203,902	0.53	3,565,864	1.03	2,162,677	1.85	2,338,262	2.19		
S5	308	13,863,659	1.39	9,489,680	1.72	11,239,762	0.91	6,624,206	2.40	6,896,454	2.19		
BioRad Cardiac 1		142,558	1.82	99,218	5.08	113,011	4.42	73,269	4.06	85,939	3.99		
BioRad Cardiac 2		607,655	1.25	458,131	1.62	526,924	0.84	337,186	3.03	392,268	2.78		
BioRad Cardiac 3		3,055,131	1.25	2,276,919	1.28	2,685,597	2.01	1,643,394	1.57	1,832,616	1.56		
Serum Pool 1		175,023	1.95	129,727	1.12	141,843	1.05	90,491	2.43	102,658	1.82		
Serum Pool 2		953,481	1.78	730,515	2.11	791,321	1.47	486,151	3.55	542,913	3.21		

FIG. 6G

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Sample	Assigned Conc. ($\mu\text{g/L}$)	Myoglobin											
		LP-530				SMS-PEG				SMS-Triton			
		L5		L2		L5		L2		L5		L2	
		Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV
S0	0	16,717	0.99	5,846	1.96	6,216	1.51	5,022	1.89	5,178	2.32		
S1	49.7	198,553	1.10	222,627	0.81	186,346	1.70	159,231	4.03	139,554	3.93		
S2	186	774,339	2.72	914,979	3.41	755,886	3.14	674,003	2.39	583,744	3.36		
S3	801	3,486,261	1.45	4,029,171	2.07	3,328,205	1.68	2,898,698	0.75	2,522,353	1.13		
S4	2067	8,472,899	2.26	9,750,443	1.48	8,116,555	2.26	6,736,742	1.36	5,989,315	2.32		
S5	4024	13,927,231	0.13	15,546,032	1.17	12,860,716	1.43	11,458,383	1.68	10,302,843	1.55		
BioRad Cardiac 1		130,097	1.30	133,393	3.18	111,793	2.63	101,407	5.96	88,448	6.20		
BioRad Cardiac 2		360,919	1.99	400,725	2.35	335,830	2.63	293,781	1.68	257,845	1.90		
BioRad Cardiac 3		850,373	2.54	968,163	4.55	806,724	4.27	704,609	3.35	622,327	2.85		
Serum Pool 1		132,116	1.96	134,352	2.61	115,440	2.80	88,671	2.92	85,439	2.70		
Serum Pool 2		460,096	2.13	516,783	3.49	434,533	2.96	360,241	2.66	325,185	2.48		

FIG. 6H

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Sample	Assigned Conc. (mIU/ml)	Total BHCG (old)											
		LP-530		SMS-PEG				SMS-Triton					
				L2		L5		L2		L5			
		Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV		
S0	0	13,476	7.14	4,586	7.34	4,890	2.14	5,428	0.73	5,006	0.96		
S1	5	28,870	0.91	16,776	2.06	16,330	2.061	17,238	7.89	16,148	6.69		
S2	26.2	98,270	0.72	70,358	2.07	64,794	1.27	65,718	3.66	59,358	3.81		
S3	147	510,260	1.80	424,176	7.80	377,782	6.374	341,376	0.37	290,672	0.49		
S4	495	1,626,792	0.20	1,251,374	0.42	1,137,778	2.338	1,113,174	1.89	882,510	2.03		
S5	1000	3,340,748	2.39	2,762,594	6.14	2,602,746	6.083	2,203,734	2.68	1,754,734	1.53		
BioRad -01		28,885	4.50	15,363	2.19	14,640	1.622	14,781	6.14	13,925	4.83		
BioRad -02		93,649	2.09	63,827	2.54	56,275	1.794	57,623	4.04	52,214	3.71		
BioRad -03		877,765	7.15	715,919	6.40	645,727	6.301	599,509	2.64	497,783	2.66		
Negative Patient		15,523	3.48	6,125	3.62	6,354	4.131	5,779	4.62	5,260	3.42		

FIG. 6I

Sample	Assigned Conc. (mIU/ml)	Total BHCG (New)									
		LP-530			SMS-PEG			SMS-Triton			
		L5		L2		L5		L2		L5	
		Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV	Mean RLU	% CV
S0	0	11,004	1.59	2,544	2.22	3,144	2.70	2,392	3.07	2,796	2.63
S1	6	57,048	0.25	16,204	1.57	16,028	0.18	14,754	1.09	13,112	0.82
S2	35.7	268,828	1.81	80,536	1.00	73,972	1.02	74,440	0.04	60,814	0.57
S3	192	1,380,960	0.33	448,594	0.09	398,472	0.70	396,886	0.32	305,908	1.43
S4	608	4,342,698	0.76	1,401,896	1.49	1,244,124	1.87	1,199,134	1.39	894,462	1.03
S5	1341	7,976,348	0.14	2,776,214	2.31	2,555,860	3.20	2,402,560	1.49	1,814,310	1.30
BioRad -01		45,193	2.01	12,580	2.12	12,137	1.41	11,503	0.66	10,480	1.64
BioRad -02		189,485	1.54	57,963	2.82	51,755	4.09	50,477	1.79	42,410	2.47
BioRad -03		2,138,746	2.20	689,205	3.45	600,122	3.23	549,013	4.25	420,735	3.98
Negative Patient		11,702	0.84	2,843	7.90	3,398	5.19	2,543	2.33	2,945	1.08

FIG. 6J

Name	pKa @ 25°C	Useable Range	Temperature Coefficient
Tris	8.06	7.0-9.0	-0.028
TAPS	8.40	7.7-9.1	0.018
221-Amine	9.69	9.0-10.5	-0.032
AMPSO	9.00	8.5-9.7	-0.029
CHES	9.50	8.6-10.0	-0.011
DEA	8.88	7.8-9.9	-0.025
AMPD	8.80	8.3-9.7	-0.029

FIG. 7

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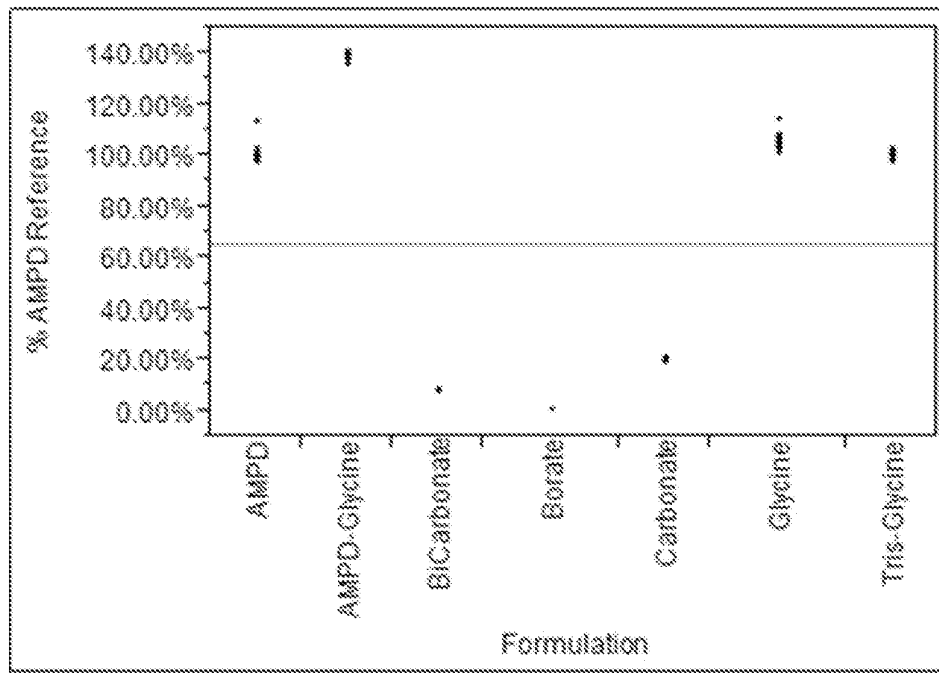
Signal with AP

FIG. 8

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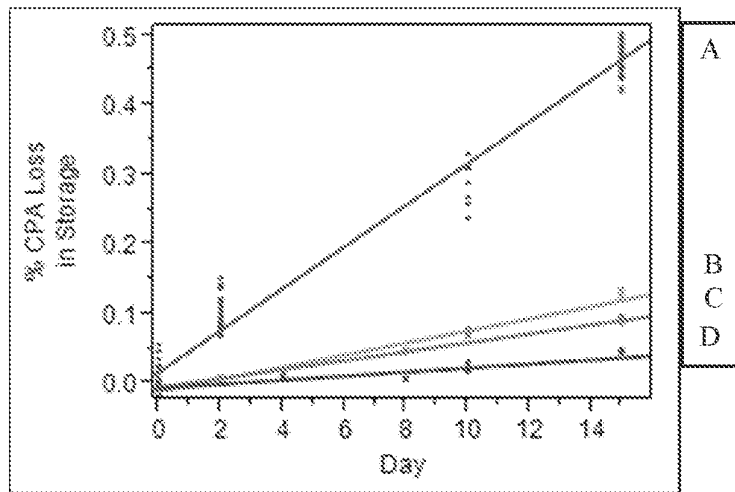


FIG. 9A

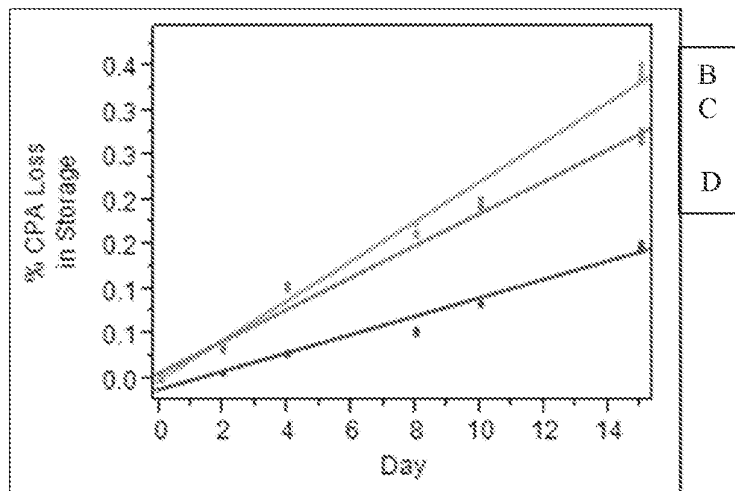


FIG. 9B

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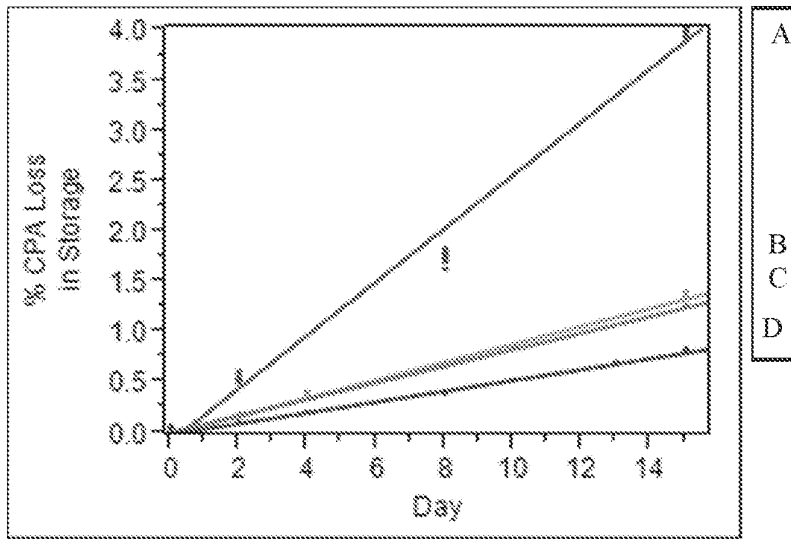


FIG. 9C

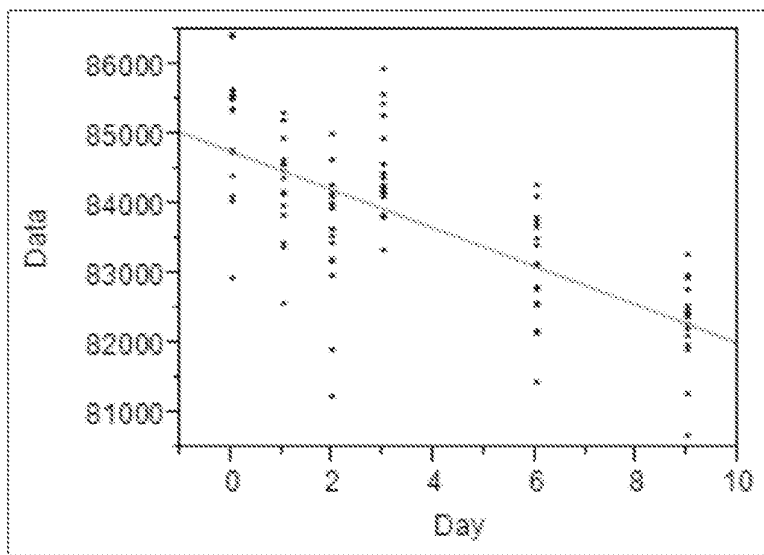


FIG. 10A

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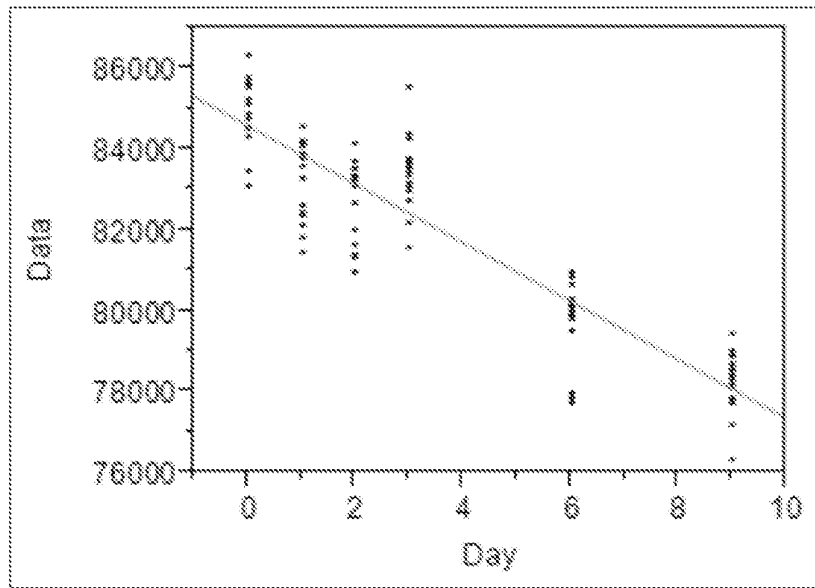


FIG. 10B

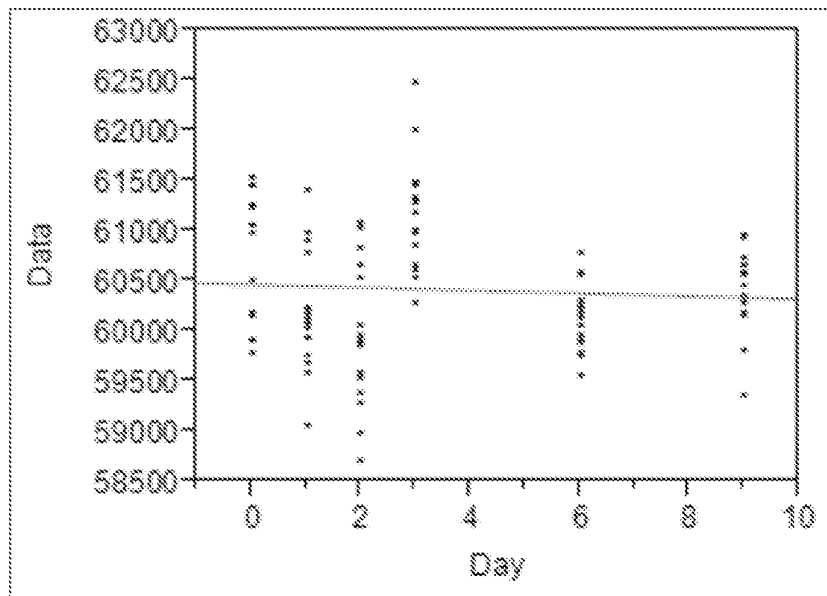


FIG. 10C

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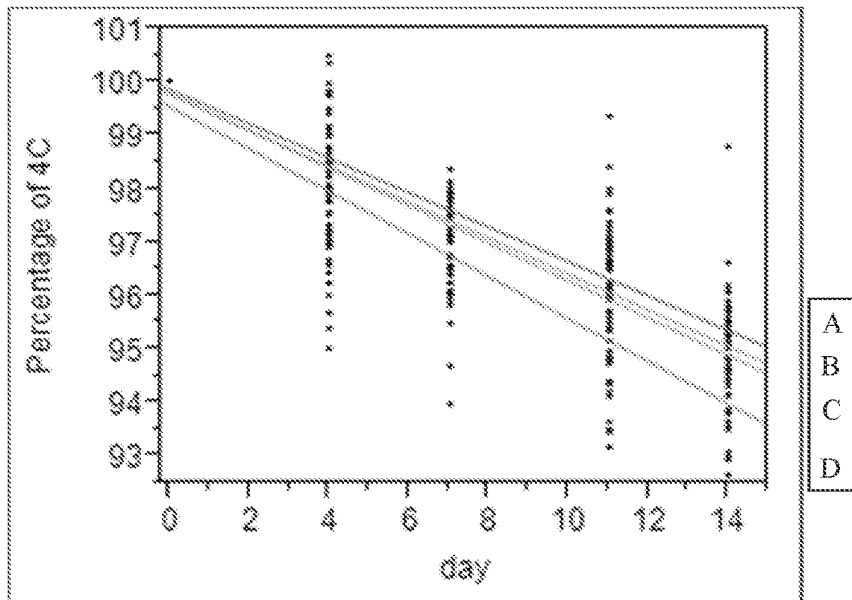


FIG. 11

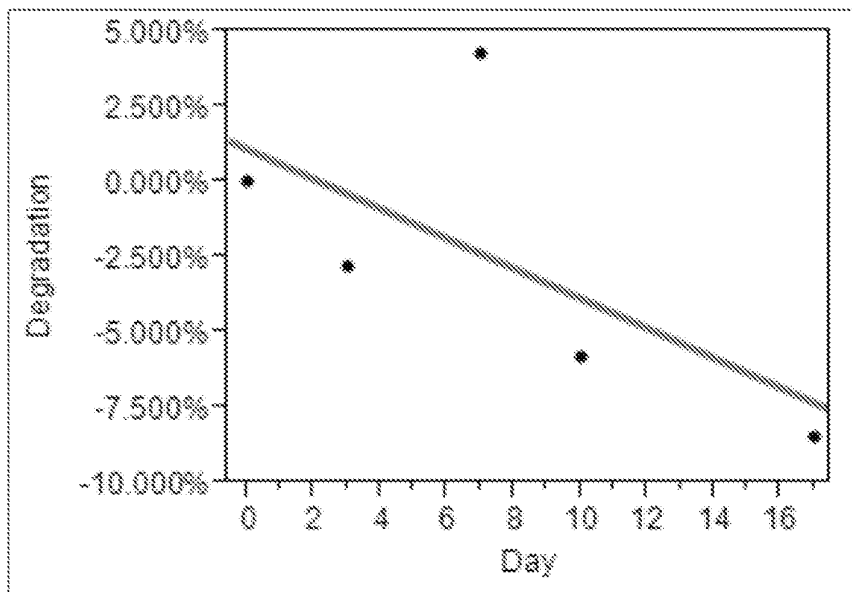


FIG. 12

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ASSAY NAME	Time to Result with LP-530 in Mins	Time to Result with Test Substrate in Mins	% Time saved
TSH-fast	20.6	15.3	26%
TSH- Hypersensitive	44.6	39.3	12%
FT4	27.8	22.5	19%
Ferritin	30.2	24.9	18%
AccuTnl	12.8	7.5	41%
VitB12	35.6	30.3	15%
PSA	20.6	15.3	26%
FOL	35.6	30.3	15%
FT3	26	20.7	20%
TBhCG2	15.8	10.5	34%
CK-MB	15.8	10.5	34%
BNP2	15.8	10.5	34%
AFP	15.8	10.5	34%
CEA2	24.2	18.9	22%
Dil-hCG2	17	11.7	31%
hFSH	54.2	48.9	10%
PTH-IO	13.4	9.7	40%
PTH routine	29	24.7	18%
hLH	54.2	48.9	10%
Testo	15.8	10.5	34%
Cortisol	20.6	15.3	26%
E2	35.6	30.3	15%
InhibinA	49.7	44.4	11%

FIG. 13