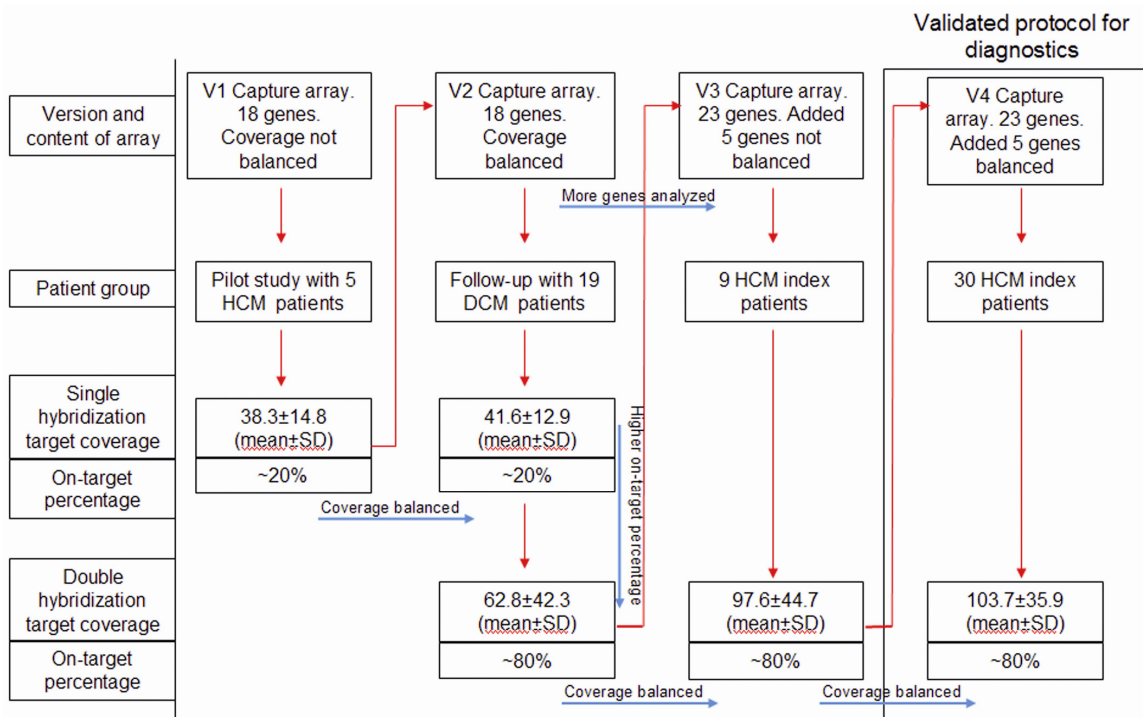


Supplemental. Figure 1. Flow chart of all experiments performed in this study. Red arrows show the order of the different experiments. Blue arrows indicate steps where the performance of the array was improved.



Supplemental Figure 2. Statistical calculation of assay sensitivity. The assay sensitivity is calculated as the sum of (statistical chance that a variant is missed at a given coverage) x (frequency of that coverage). In this example the assay sensitivity was calculated for an experiment with a coverage of 100±35X. Individual chances in the coverage interval 16-300X (shown here the interval 1-40X and 270-300X) are highlighted in green. The assay sensitivity is highlighted in yellow.

Coverage	Chance missed	Frequency at 100±35X	Chance missed x frequency at 100±35X	Coverage	Chance missed	Frequency at 100±35X	Chance missed x frequency at 100±35X
1	0,5	0,000217317	0,000108659	38	5,81E-05	0,002434555	1,41408E-07
2	0,25	0,000235415	5,88539E-05	39	3,51E-05	0,002558847	8,98856E-08
3	0,125	0,000254813	3,18516E-05	40	9,11E-05	0,002687289	2,44766E-07
4	0,0625	0,000275584	1,7224E-05	↓ ↓ ↓ ↓ ↓	↓ ↓ ↓ ↓ ↓	↓ ↓ ↓ ↓ ↓	↓ ↓ ↓ ↓ ↓
5	0,1875	0,000297805	5,58384E-05	270	2,02E-24	8,01856E-08	1,61681E-31
6	0,109375	0,000321555	3,517E-05	271	1,26E-24	6,97391E-08	8,76637E-32
7	0,0625	0,000346915	2,16822E-05	272	7,83E-25	6,06041E-08	4,74558E-32
8	0,03515625	0,000373971	1,31474E-05	273	4,87E-25	5,26227E-08	2,56458E-32
9	0,01953125	0,000402807	7,86733E-06	274	3,03E-25	4,56552E-08	1,38358E-32
10	0,0546875	0,000433513	2,37078E-05	275	7,62E-25	3,95779E-08	3,01634E-32
11	0,032714844	0,000466179	1,5251E-05	276	4,75E-25	3,42815E-08	1,62907E-32
12	0,019287109	0,000500898	9,66087E-06	277	2,96E-25	2,96697E-08	8,7834E-33
13	0,011230469	0,000537763	6,03933E-06	278	1,84E-25	2,56573E-08	4,7277E-33
14	0,006469727	0,00057687	3,73219E-06	279	1,15E-25	2,21695E-08	2,54042E-33
15	0,017578125	0,000618316	1,08688E-05	280	2,88E-25	1,91402E-08	5,51523E-33
16	0,010635376	0,0006622	7,04274E-06	281	1,80E-25	1,65113E-08	2,96667E-33
17	0,006362915	0,000708619	4,50888E-06	282	1,12E-25	1,42318E-08	1,5931E-33
18	0,003768921	0,000757673	2,85561E-06	283	6,97E-26	1,22571E-08	8,54061E-34
19	0,002212524	0,000809462	1,79095E-06	284	4,33E-26	1,05477E-08	4,57098E-34
20	0,005908966	0,000864085	5,10585E-06	285	1,09E-25	9,06935E-09	9,88215E-34
21	0,00359869	0,000921642	3,3167E-06	286	6,79E-26	7,79182E-09	5,29422E-34
22	0,002171755	0,000982231	2,13316E-06	287	4,23E-26	6,68878E-09	2,83157E-34
23	0,001299739	0,001045948	1,35946E-06	288	2,84E-26	5,73721E-09	1,51192E-34
24	0,00077194	0,00111289	8,59084E-07	289	1,64E-26	4,91699E-09	8,05962E-35
25	0,002038658	0,00118315	2,41204E-06	290	4,12E-26	4,2106E-09	1,73517E-34
26	0,001246959	0,00125682	1,5672E-06	291	2,57E-26	3,60275E-09	9,25842E-35
27	0,00075686	0,001333987	1,00964E-06	292	1,60E-26	3,08014E-09	4,93188E-35
28	0,000456117	0,001414737	6,45286E-07	293	9,97E-27	2,63118E-09	2,62284E-35
29	0,000273056	0,001499151	4,09353E-07	294	6,20E-27	2,24583E-09	1,39258E-35
30	0,000715453	0,001587306	1,13564E-06	295	1,56E-26	1,91536E-09	2,98562E-35
31	0,000438955	0,001679273	7,37125E-07	296	9,72E-27	1,63218E-09	1,58662E-35
32	0,000267526	0,001775119	4,74891E-07	297	6,06E-27	1,38973E-09	8,41778E-36
33	0,000162032	0,001874904	3,03794E-07	298	3,77E-27	1,18233E-09	4,45875E-36
34	9,76E-05	0,001978683	1,93046E-07	299	2,35E-27	1,00506E-09	2,35787E-36
35	0,00025413	0,002086502	5,30243E-07	300	5,90E-27	8,53676E-10	5,03413E-36
36	0,000156276	0,002198401	3,43556E-07				
37	9,55E-05	0,002314411	2,21115E-07	Chance missed x frequency for cov. 16-300X			4,03E-05