

# Non-contact microplate evacuation with BlueWasher: No Cross Contamination



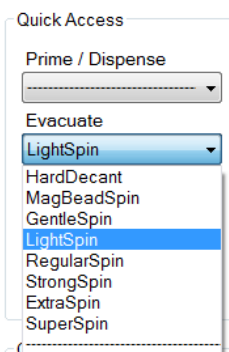
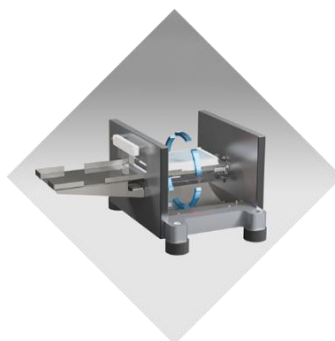
BLUE CAT BIO

40µl/ well of an aqueous fluorescein solution were manually pipetted into a 384 well plate in a “checkerboard” pattern; remaining wells remained empty. Fluorescent intensities measured pre & post evacuation with Tecan MP Reader / Magellan software.

## Fluorescent intensities pre evacuation:

<>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
A	45202	9	40312	7	8	8	8	8	8	45934	8	40799	8	8	7	7	8	8	8	8	8	41822	8	41068	
B	9	41602	7	8	8	8	7	8	7	9	40294	8	8	8	8	7	7	8	8	7	8	8	41242	9	
C	41553	8	39989	8	8	7	8	7	8	43131	7	36786	8	7	8	8	8	7	8	8	7	39957	8	38558	
D	9	36595	8	8	8	7	8	8	8	8	38202	7	8	8	8	8	8	8	7	7	8	8	38170	8	
E	42827	8	39983	8	8	8	7	8	8	40812	8	37898	8	8	8	8	8	8	8	8	8	39641	8	37648	
F	9	41856	7	7	8	8	8	7	7	8	38814	7	7	8	8	7	8	7	8	8	8	8	39233	8	
G	41259	8	38437	8	7	7	8	8	8	38906	7	33274	8	8	8	8	8	7	8	8	7	34911	8	36381	
H	9	44091	7	7	8	8	8	8	8	8	35250	6	8	8	8	8	8	8	8	8	8	8	36202	8	
I	42131	9	38732	8	8	8	8	8	8	36526	7	34553	8	8	8	8	8	8	8	8	8	34765	8	38543	
J	9	42879	8	8	8	7	8	8	8	7	33757	5	8	8	8	8	8	8	8	8	8	8	37759	9	
K	40541	9	37960	8	8	8	8	8	8	35734	6	32979	8	8	8	8	8	8	8	8	8	38896	8	37131	
L	9	41798	8	8	8	8	8	8	8	6	32600	5	7	8	8	8	8	8	8	8	8	7	39624	8	
M	41553	10	38287	8	8	8	8	8	8	32493	5	30350	8	7	8	8	7	8	8	8	8	38720	8	40792	
N	9	43597	8	8	8	8	8	8	8	5	29591	4	8	8	7	8	8	8	8	8	9	8	39065	8	
O	41294	9	37367	8	8	8	8	8	8	34963	5	29892	8	8	8	8	8	8	8	8	8	39411	8	41431	
P	10	44071	8	9	8	8	8	8	8	7	31917	5	8	8	8	8	8	8	8	8	8	8	9	8	44772

Evacuation of the plate using BlueWasher’s “LightSpin” centrifugation mode



## Fluorescent intensities post evacuation:

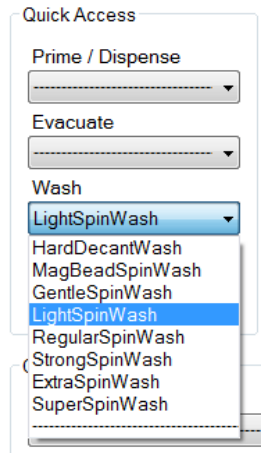
<>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	137	8	405	8	8	8	9	9	8	166	8	141	8	8	9	8	8	8	8	8	9	259	7	275
B	7	182	8	8	9	8	8	8	9	8	239	8	8	8	9	9	9	8	8	8	9	7	159	8
C	57	7	242	8	8	8	9	8	8	311	7	58	8	8	9	9	8	9	8	8	8	244	8	139
D	8	385	7	8	8	8	9	9	8	7	127	7	8	8	9	8	8	9	9	9	8	7	283	7
E	110	7	178	8	9	8	8	8	9	216	7	56	8	8	8	8	9	9	9	9	8	317	7	150
F	7	220	7	9	8	8	9	8	8	8	201	8	8	9	9	9	8	8	9	8	8	7	267	7
G	390	8	153	8	8	9	9	8	8	94	8	45	8	8	9	9	9	9	9	8	8	183	7	276
H	8	199	8	8	9	8	8	9	8	7	69	7	8	8	8	8	9	9	8	8	8	7	190	8
I	204	8	120	8	8	8	8	9	9	55	7	60	8	9	9	9	8	9	8	8	9	118	8	254
J	8	215	8	8	8	8	8	8	8	8	35	8	8	9	8	8	8	8	9	9	9	8	215	8
K	181	7	134	8	9	9	8	9	8	25	8	43	8	8	9	8	8	8	9	9	9	161	8	149
L	8	201	8	9	8	8	9	8	8	8	10	7	8	9	9	8	8	8	9	9	9	7	223	8
M	230	7	9	9	8	9	8	8	8	9	8	30	9	8	9	9	8	9	9	9	9	9	8	154
N	8	200	8	8	9	8	8	8	8	8	40	8	9	8	8	8	8	8	9	9	8	8	182	8
O	192	8	49	9	8	9	9	8	8	9	8	9	9	8	8	8	9	8	9	8	8	8	8	185
P	8	86	8	8	9	8	8	8	8	8	9	8	8	8	9	8	8	8	8	9	9	8	9	9

## Results

- Wells with fluorescein solution: ~99.5% signal reduction (equivalent to 0.2µl/ well of residual volume)
- Wells left empty: **no cross contamination observed**

Next, the plate was **washed** using the BlueWasher “LightSpinWash” wash mode:

- BlueWasher’s 16-pin dispenser added 50 µl/ well of PBS buffer into each well of plate
- Evacuation with the same LightSpin centrifugation mode used in initial evacuation



### Fluorescent intensities post wash cycle:

<>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	14	7	10	7	8	8	8	8	7	13	8	11	7	8	7	8	7	8	7	8	8	10	7	11
B	7	12	7	7	7	7	8	8	7	7	9	7	7	7	8	8	7	7	7	8	7	7	11	7
C	11	7	12	8	7	8	8	8	8	9	7	8	8	8	8	7	8	8	8	7	8	7	8	8
D	7	8	7	7	7	8	8	8	8	8	9	7	7	8	8	8	8	7	8	8	8	7	8	7
E	10	7	12	8	7	7	8	8	8	9	7	8	7	7	8	8	8	8	7	8	7	10	7	10
F	7	9	7	7	7	8	7	8	8	7	9	7	7	8	7	8	8	8	7	8	7	7	8	7
G	9	7	10	7	7	8	8	7	7	9	7	8	7	7	8	7	8	7	8	7	7	9	7	9
H	7	12	7	8	7	8	8	7	7	7	8	7	7	7	8	8	8	8	7	7	8	7	8	7
I	12	7	9	8	8	8	7	8	7	8	7	8	7	8	7	8	7	8	7	8	8	8	8	9
J	8	12	7	7	8	7	7	8	8	8	8	7	8	7	7	8	7	8	8	7	7	9	8	8
K	17	7	10	7	8	8	7	7	8	8	7	9	7	8	8	7	8	7	8	8	8	8	7	11
L	7	15	7	8	7	8	8	8	7	7	7	7	7	7	8	8	8	7	8	7	7	10	7	7
M	12	8	12	8	8	8	8	7	7	8	7	8	8	8	8	7	7	8	7	7	9	7	8	8
N	7	11	8	8	8	7	7	7	8	7	7	7	8	8	8	7	7	8	8	7	8	7	8	7
O	14	8	11	8	8	8	7	7	7	8	8	9	9	7	7	8	8	7	8	9	7	8	8	9
P	7	15	8	8	7	8	8	7	9	8	8	8	8	7	7	7	8	8	7	8	8	7	10	8

### Results

- Wells with fluorescein solution: ~99.95% overall signal reduction
- Wells left empty: **no cross contamination observed**. Signals above background are due to absorbance of fluorescein to the plastic of the microplate

### Acknowledgements

We would like to thank Dr. Eva Riegler, Dr. Tijmen Booij und David Keller, ETH Zürich, Switzerland, for conducting this experiment and sharing their results

