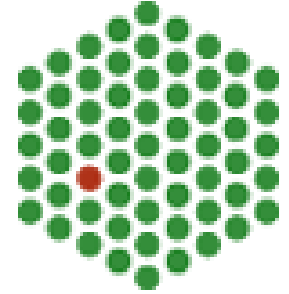




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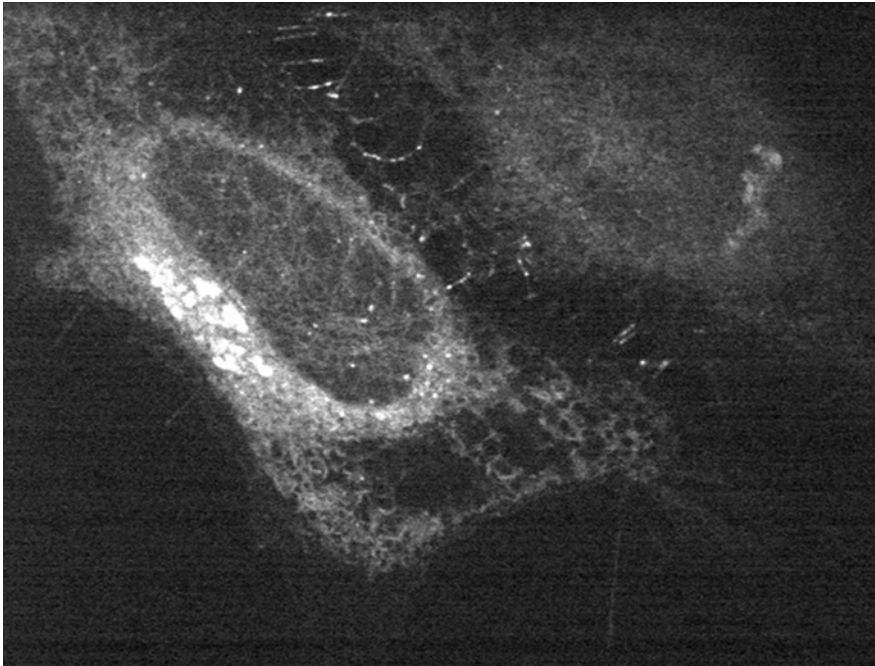


# Results: Time-lapse imaging and movement analysis

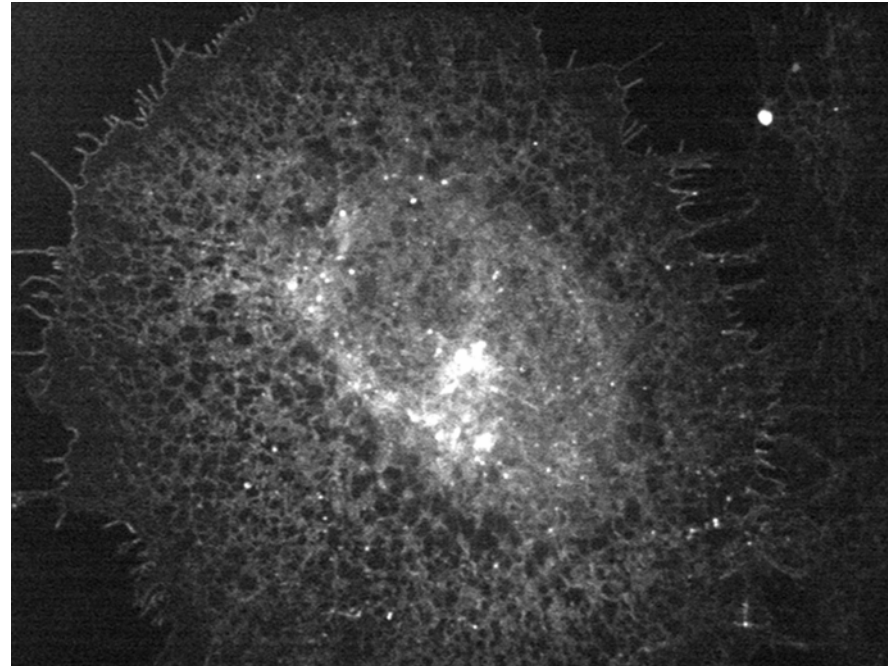
# Time-lapse imaging and tracking of VSVG & p24 vesicles

For time-lapse imaging two constructs were used. Cells with either Vesicular Stomatitis Virus Glycoprotein fused with YFP (VSVG) or p24-yfp were imaged for up to 5 minutes with a frame rate of 2-5 fps (PerkinElmer Ultraview RS). Both proteins are transported in vesicles. While p24 shuttles between ER and Golgi, VSVG is transported from ER to Golgi and further to the plasma membrane where the vesicles fuse and the cargo including VSVG is deposited outside.

VSVG ([example movie 1](#))



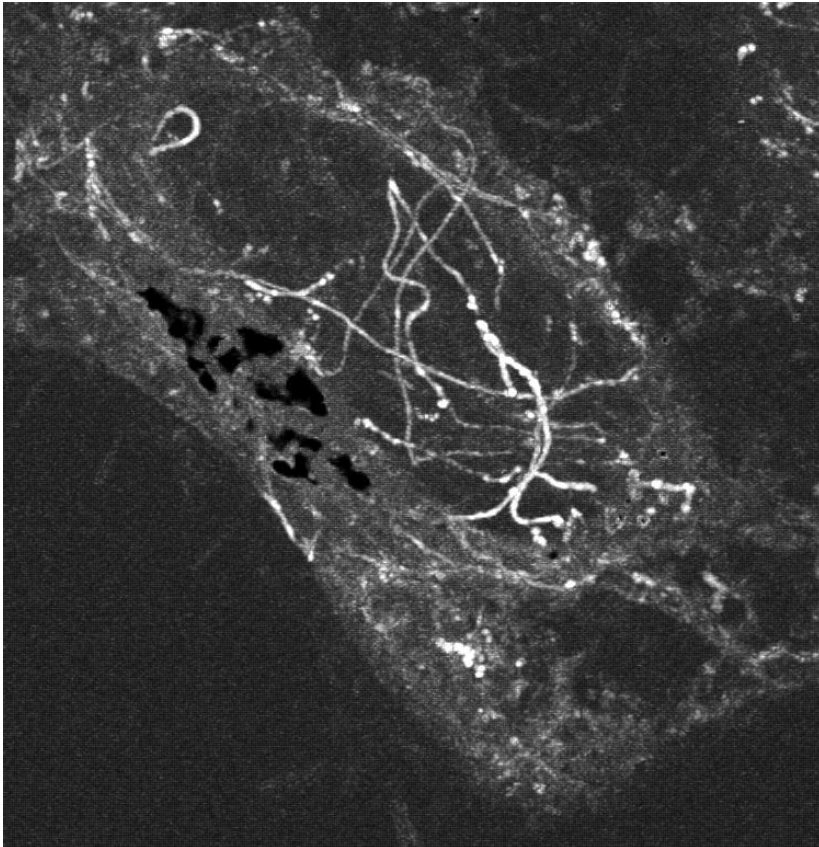
p24 ([example movie 2](#))



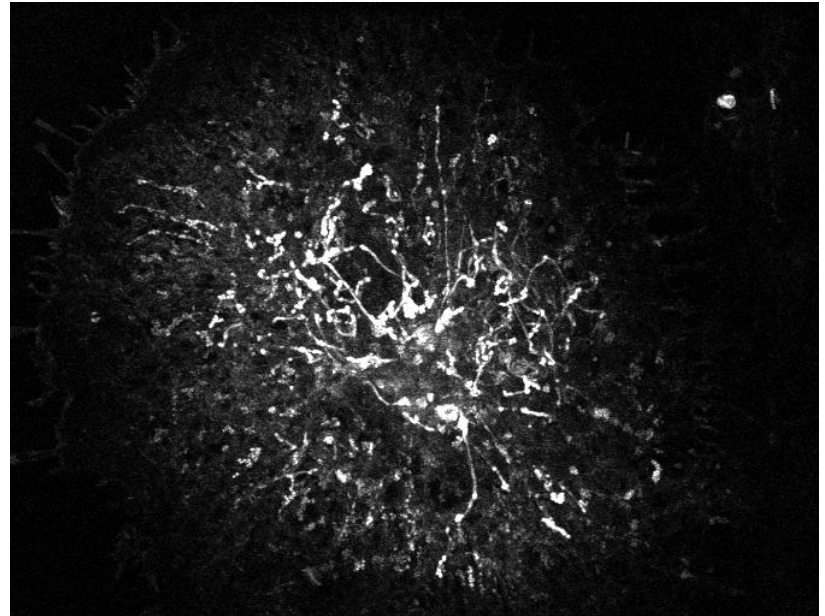
# Movement Tracks

Tracks of the moving vesicles were created with ImajJ using the [kymograph plugins](#). These tracks summarize the movement of vesicles and can be used To draw lines along selected tracks to create kymographs.

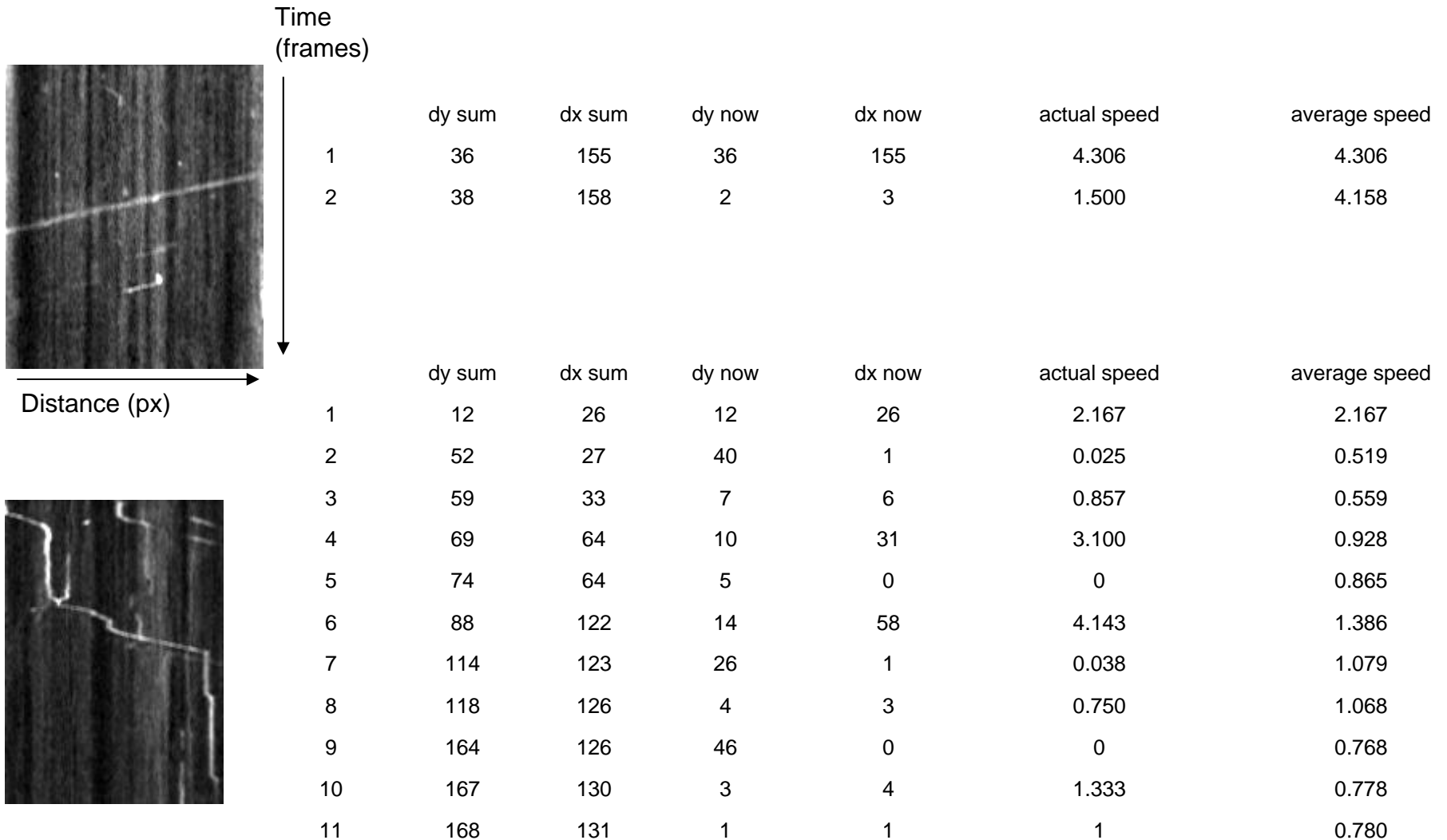
VSVG vesicle tracks



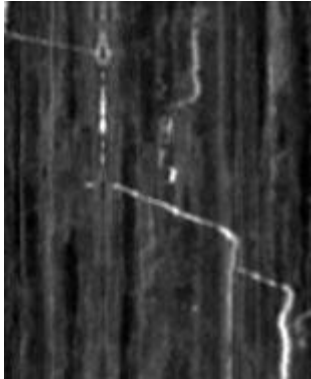
P24 vesicle tracks



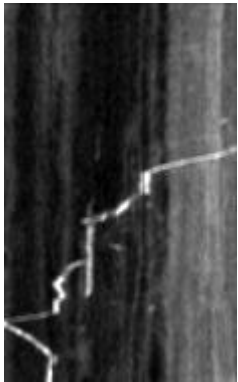
# VSVG – movement analysis



# p24 – movement analysis



	dy sum	dx sum	dy now	dx now	actual speed	average speed
1	9	48	9	48	5.333	5.333
2	72	48	63	0	0	0.667
3	100	115	28	67	2.393	1.150
4	115	116	15	1	0.067	1.009
5	128	144	13	28	2.154	1.125
6	145	149	17	5	0.294	1.028
7	170	150	25	1	0.040	0.882
8	171	152	1	2	2	0.889



	dy sum	dx sum	dy now	dx now	actual speed	average speed
1	12	43	12	43	3.583	3.583
2	37	70	25	27	1.080	1.892
3	56	73	19	3	0.158	1.304
4	81	88	25	15	0.600	1.086
5	85	112	4	24	6	1.318
6	106	135	21	23	1.095	1.274
7	114	138	8	3	0.375	1.211