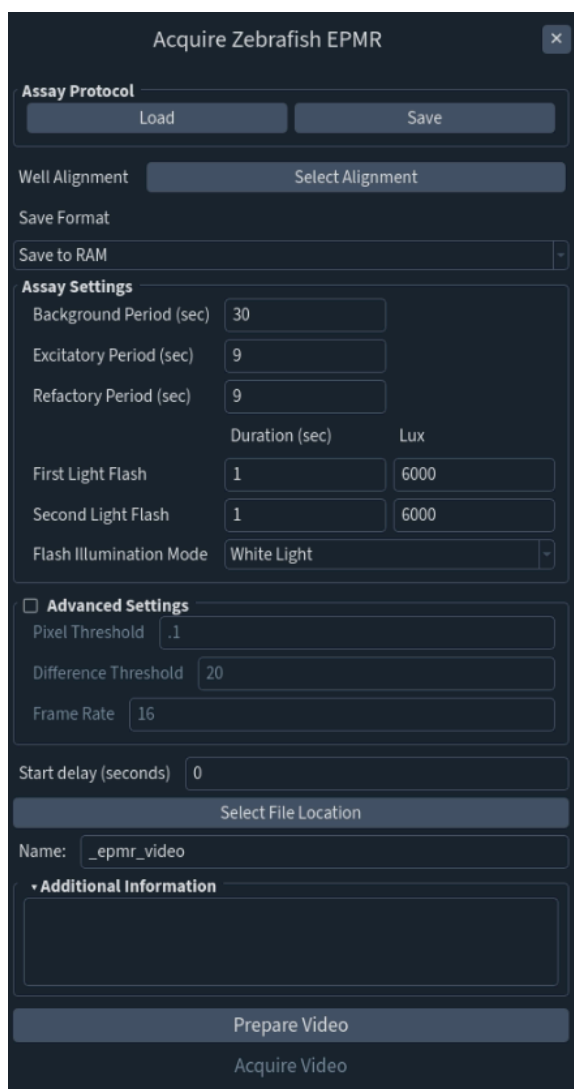


Zebrafish Embryonic Photomotor Response (EPMR) Assay



The EPMR assay measures the responses of embryonic zebrafish upon exposure to flashing light stimuli. The MCAM Zebrafish EPMR Assay enables users to set up stimuli and data capture for an EPMR assay experiment.

Step	Action
1	Go to Assays > Zebrafish > Acquire Zebrafish EPMR to open the Acquire Zebrafish EPMR Panel. Once the Acquire Zebrafish EPMR Panel opens, image acquisition settings will

	automatically adjust to empirically verified optimal values for EPMR assays. However, image acquisition settings can still be modified by the user.
2	Click Select Alignment to select a Well Alignment File (see Create a Well Alignment File for more information, and for instructions on creating a Well Alignment File). The well plate configuration documented within the selected Well Alignment File should match the configuration of the well plate being used in the EPMR assay.
3	(Optional) In the Additional Information field, enter any notes about the EPMR assay being conducted.
4	To save assay data as an .nc dataset file, select Save to RAM under Save Format. To save assay data as an MP4 file, select Save to MP4 under Save Format.
5	(Optional) Assay Settings open with preset suggested values. However, to customize assay data capture, under Assay Settings, set durations of: • Background Period (sec) - time before First Light Flash • Excitatory Period (sec) - time between First Light Flash and Second Light Flash • Refractory Period (sec) - time after Second Light Flash • First Light Flash (sec) • Second Light Flash (sec) as per EPMR assay experimental requirements.
6	(Optional) Assay Settings open with preset suggested values. However, to customize assay data capture, under Assay Settings, set intensity values of: • First Light Flash • Second Light Flash as per EPMR assay experimental requirements.
7	(Optional) Enter a value in the Start Delay field to delay the start of the assay data capture sequence defined in Steps 5 and 6 above.
8	Click Select File Location to select a workspace. Always select a folder on the "MCAM_data" drive to store data from MCAM™ acquisitions. The "File Location" will be displayed in the left side panel once defined.
9	Define a Filename to name the folder into which all generated files will be saved. A timestamp will be automatically appended to this name.

10	(Optional) At the top of the panel under "Assay Protocol" click Save to save this assay protocol for future use. In the future, load previously saved assay data capture parameters by clicking the Load button under "Assay Protocol" and select the appropriate EPMR Assay JSON file.
11	If Save to Ram was selected as the Save Format, click the Prepare Video button to set up the MCAM system to capture EPMR assay video data.
12	Click the Acquire Video button to begin EPMR assay data capture.