If your data looks like the graph below you are experiencing absorption of CO$_2$ in the substrate liquid.

Absorption of CO$_2$ in the Liquid

In the beginning of a study, CO$_2$ in the head space of the bottle will dissolve into the liquid until it becomes saturated with CO$_2$. If CO$_2$ absorption happens faster than CO$_2$ production, then the net result will be negative. After the fluid becomes saturated and/or CO$_2$ production surpasses absorption, the pressure will begin rising. This is a normal occurrence but can be minimized in one of two ways.

1) Purge the head space with CO$_2$ and let it sit under 3-4 psi pressure to allow time for the CO$_2$ to absorb into the liquid. Monitor the pressure and observe when the pressure decline levels off. Release the remaining pressure and immediately add the sample/substrate and start the experiment.

2) Bubble CO$_2$ into the solution until it is completely saturated. Purge the bottle head space with CO$_2$ and start the experiment.

Note: Running a blank in your study and deducting this data from your remaining study samples will help to factor out CO$_2$ absorption. For more information on running a blank see the Operator’s Manual operating instructions.