Equations for converting Ct values to *Labyrinthula zosterae* cell numbers

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<u>Calculations</u>

We used the following set of equations to convert Ct values to *L. zosterae* cell numbers:

$$copy\ no. * qPCR\ rxn^{-1} = 10^{\frac{(Ct-a)}{b}} \tag{1}$$

$$copy\ no. * L.zosterae\ cell^{-1} = \frac{10^{\frac{(Ct_{L.zosterae\ cell\ standard}-a)}{b}}}{Standard\ L.zosterae\ cells * qPCR\ rxn^{-1}} \tag{2}$$

$$L.zosterae\ cells * \mu L^{-1} = \frac{copy\ no. * qPCR\ rxn^{-1}}{copy\ no. * L.zosterae\ cell^{-1}} * \frac{qPCR\ rxn}{1\mu L} \tag{3}$$

$$L.zosterae\ cells * Z.marina\ mg\ dw^{-1} = \frac{L.zosterae\ cells}{\mu L^{-1}} * \frac{100\mu L\ * extraction^{-1}}{Z.\ marina\ mg\ dw^{-1} * extraction^{-1}} \tag{4}$$

where a = y-intercept, b = slope. Specifically, we first converted Ct values to copy numbers (Eqn. 1) as our g-block standard curve were in units of copy number. We then used the *L. zosterae* cell standard to determine the copy number per *L. zosterae* cell (Eqn. 2). Finally, we converted copy number to *L. zosterae* cells * mg dw[-1] (Eqns. 3 & 4). Copy numbers per cell in our reactions were 1227.58 ± 80.66 (mean ± SE).