

Determining the Concentration of your Morpholino in Solution

Note: This procedure assumes use of a spectrophotometer with a 1 cm path length (the most common type).

1. Blank your spectrophotometer with 995 μl of 0.1 N HCL in a quartz cuvette.
2. Add 5 μl of your morpholino to the 995 μl of 0.1 N HCL. Mix
3. Read the absorbance of this solution at 265 nm on a spectrophotometer.
4. Multiply the absorbance by 200 (to account for your dilution). This = A.
5. On your morpholino product information sheet you will find the molar absorbance* of your morpholino. This would be the absorbance if you had a 1 M solution of morpholino. This number = ϵ
6. The concentration (C) of your morpholino = A/ϵ in M. Your concentration will most likely be in the range of 0.000001 M = 1 microMolar (μM) to 0.001M = 1milliMolar (mM)

Example using Gene Tools Standard Control:

Sequence: 5'CCTCTTACCTCAGTTACAATTTATA3'

Molar Absorbance: 259160.00 Molecular Weight: 8341

Absorbance of 5 μl morpholino in 995 μl 0.1 N HCL = 0.645

$A = 0.645 \times 200$ (dilution factor) = 129

$\epsilon = 259160$

$C = A/\epsilon = 129/259160 = 0.000497 \text{ M} = 497 \text{ microMolar } (\mu\text{M})$

*Contact Gene Tools with your morpholino production number if you have misplaced your product information sheet.