Macro MW iPhone App

User Guide

December 2009

Version 1.00

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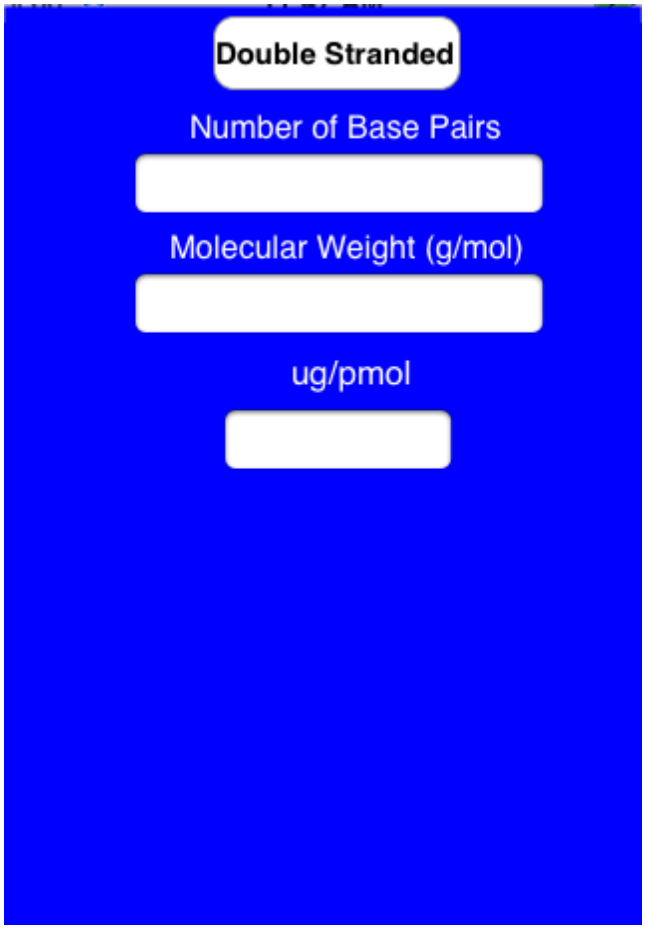
1 Overview

With this app you can quickly figure out the molecular weight of your macromolecule (DNA, RNA, or protein) from its length. For example, a 131 nucleotide RNA is 0.04 ug/pmol, corresponding to a molecular weight of 43,230 g/mol.

Alternatively, if you know the molecular weight, this app will give you the length of your macromolecule. For example, you can quickly discover that a 50kD protein is 455 amino acids.

If you make a calculation based on the wrong type of macromolecule, simply press the selector button until the correct type is displayed. The app remembers whether you last entered a length or weight and automatically recalculates the other fields.

2 DNA Screen



2.1 Macromolecule Type

When in DNA mode, the topmost field of the screen will display Double Stranded.

Touching this field will cycle through the possible types, recalculating the other fields based on which data entry field was last changed.

2.2 Number of Base Pairs

Entering the desired number of base pairs in this field will calculate the molecular weight in the other fields.

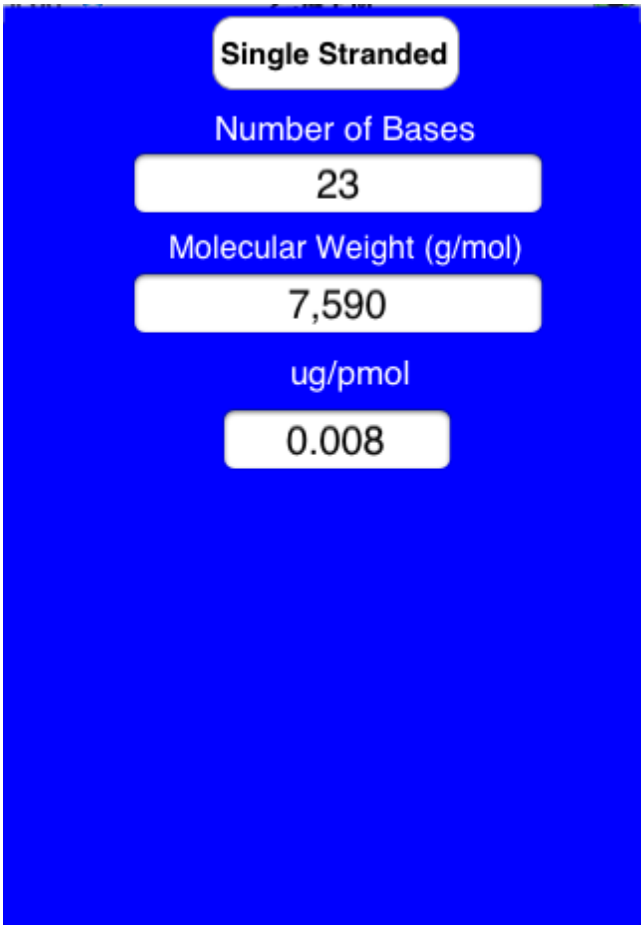
2.3 Molecular Weight

The molecular weight in both grams per mole (g/mol) and micrograms per picomole (ug/pmol) is displayed.

When a molecular weight in g/mol is entered, the number of base pairs and weight in ug/pmol are recalculated.

When a molecular weight in ug/pmol is entered, the number of base pairs and weight in g/mol are recalculated.

3 RNA Screen



3.1 Macromolecule Type

When in RNA mode, the topmost field of the screen will display Single Stranded.

Touching this field will cycle through the possible types, recalculating the other fields based on which data entry field was last changed.

3.2 Number of Bases

Entering the desired number of bases in this field will calculate the molecular weight in the other fields.

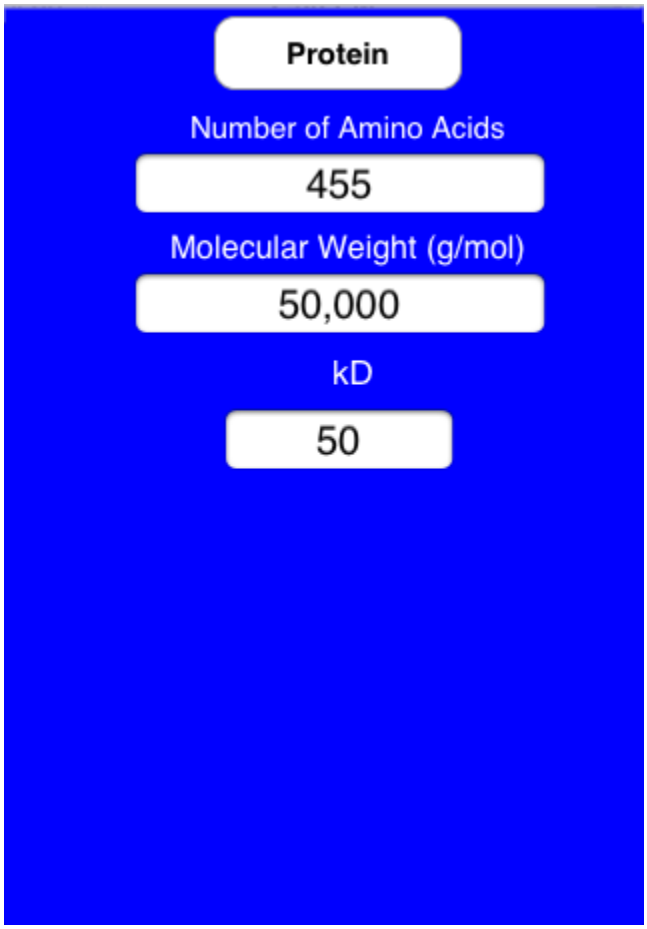
3.3 Molecular Weight

The molecular weight in both grams per mole (g/mol) and micrograms per picomole (ug/pmol) is displayed.

When a molecular weight in g/mol is entered, the number of bases and weight in ug/pmol are recalculated.

When a molecular weight in ug/pmol is entered, the number of bases and weight in g/mol are recalculated.

4 Protein Screen



4.1 Macromolecule Type

When in Protein mode, the topmost field of the screen will display Protein.

Touching this field will cycle through the possible types, recalculating the other fields based on which data entry field was last changed.

4.2 Number of Amino Acids

Entering the desired number of amino acids in this field will calculate the molecular weight in the other fields.

4.3 Molecular Weight

The molecular weight in both grams per mole (g/mol) and kiloDaltons (kD) is displayed.

When a molecular weight in g/mol is entered, the number of amino acids and weight in kD are recalculated.

When a molecular weight in kD is entered, the number of amino acids and weight in g/mol are recalculated.