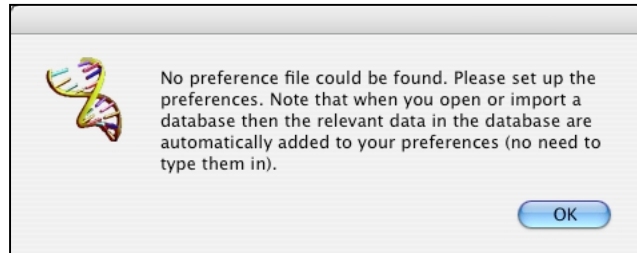


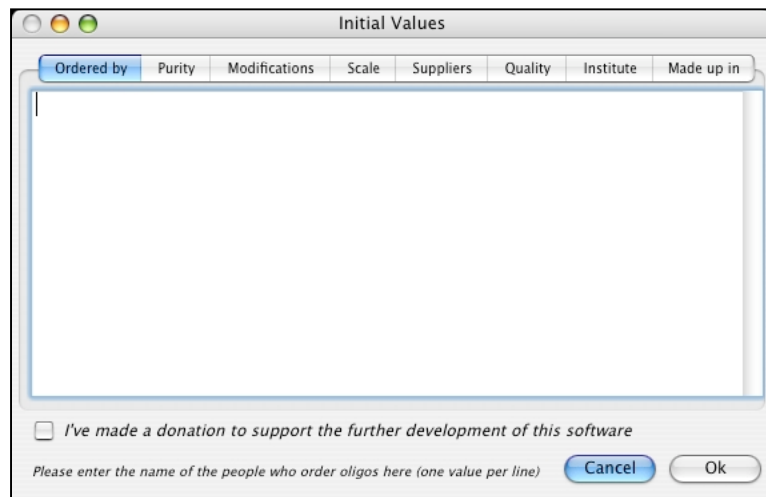
# OligoChecker

## Version 2.19.8

When you start OligoChecker for the first time you will be informed that no preference file could be found. The Preference File stores often used data like the names of the people who order oligos, or the names of the suppliers you order from. You can set it up now, or it will automatically be created when you import a tab delimited file containing your oligo data (see the provided template).



Next the Preference Window pops open - if you are starting from scratch then please input the values (one item per line). If you already have an Excel spreadsheet with the information about your oligos then there's a better way: Dismiss the window by clicking "Cancel". Open your Excel spreadsheet and the included "OligoChecker Excel template" and just copy your information over. Make sure that the correct information ends up in the right spreadsheet column (e.g. don't put the company names into the people names column). Save the modified "OligoChecker Excel template" as a "tab delimited file" (which is a normal text file in which the columns are separated by tabs) and it's ready for import into OligoChecker - OligoChecker will put the data into the relevant fields during import.



You are now presented with the OligoChecker window:

The OligoChecker window is divided into several sections:

- Oligos in list:** A table with columns: Number, Oligo Name, Sequence.
- Paste or drop your sequence here:** A large text area for pasting or dropping sequences.
- Oligos suitable for PCR:** A table with columns: Number, Oligo name, Strand, Position, MatchLength.
- Primers selected for PCR:** A table with columns: Number, Name, Position, MatchLength.
- PCR settings:** Includes tabs for PCR, Restriction sites, Open Reading Frames, and Agarose Gel. The PCR tab is active, showing an Annealing temperature of 55 °C and a Polymerase used field.
- PCR product:** A table with columns: PCR product, Inverted PCR product, Alignment, Info.
- Buttons:** 'new oligo' and 'check' buttons are at the bottom left.
- Help text:** A note at the bottom right states: "The PCR products are shown here. Click on any PCR product or primer to get it's sequence and info."

The easiest way to get your oligo data into OligoChecker is to drop the modified “OligoChecker Excel template” onto the top left field which contains a list of all your oligos

Alternatively you can choose “import” or “open” from the file menu

The oligos are displayed in the top left field. You can sort the respective columns by clicking on them.

Colors indicate the quality of the oligos (I usually run 5 µl of a 50 mM stock on a 1% agarose gel to check – you might be surprised at what you see if you do this). If you want to edit an oligo just double-click on it. Please note that a help text is displayed in the bottom right corner indicating the purpose of each field.

The OligoChecker window is now populated with sample data:

- Oligos in List:** 409 (longest oligo: 72 nts). The table shows oligos with color-coded quality indicators (green, yellow, red).
- Oligos suitable for PCR:** The table is empty.
- Primers selected for PCR:** The table is empty.
- PCR settings:** The Annealing temperature is 55 °C.
- PCR product:** The table is empty.
- Buttons:** 'new oligo' and 'check' buttons are at the bottom left.
- Help text:** The same note as in the first screenshot is present at the bottom right.

Next paste or enter a sequence into the sequence field. You can also simply drop a text file containing the sequence onto it (try the included sample files).

OligoChecker will now look like this:

Oligo database sample.txt

Oligos in List: 409 (longest oligo: 72 nts)

Number	Oligo Name	Sequence
125	US-mGHR-exon2-5838CAGCCACTCTTGGGCTTCT	
126	US-mGHR-exon2-5872ATGGAGACTGGTGGCTCTTG	
127	US-mGHR-exon2-5921CACAGTCATTCCACGGGTTTC	
128	S0212	ACCCAAGCCACCTTCCC
129	DS-11316	TTGCCATCTGGAGACGGTAT
130	DS-12105	TCTTCTTGCTTTGTACGGTC
131	DS-12104	CTTCTTGCTTTGTACGGTCA
132	S500A diagnostic	CCAGCGTGTTCGAGCCTG

Current sequence: M33324 mouse GHR BP

```
CCGCACCAAG AATAACCAAG GAAACGTCTA CAAAATTCA ACCCTAGCTT
CTCTACCAGA TTTTAACTAA ACGAGATCTT CTTGCAAAGG TCTCAGGTAT
GGATCTTTGT CAGGCTTCTT TAACCTTGGC ACTGGCAGTC ACCAGCAGCA
CATTTTCTGG AAGTGAGGCT ACACCACTA CTCTGGCAA AGCTTCCCA
GTTCTGCAA GAATCAATCC AAGCCTGGG ACAAGTTCTT CTGGAAGCC
TCGATTCACC AAGTGCTGTT CCCCTGAAC GGAGACATTT TCATGCTACT
GGACAGAAGG AGATAATCCT GATTAAAGA CCCAGGATC TATTCAGCTG
TACTATCTTA AAGCCAAAG CCAAGCAGAA CTCTGAAAG TTTCTCTATA
```

☐ circular 2288 bp Cursor at: 0

Oligos suitable for PCR:

Number	Oligo name	Strand	Position	MatchLength
--------	------------	--------	----------	-------------

new oligo check

Primers selected for PCR:

Number	Name	Position	MatchLength
upper:			
lower:			

PCR Restriction sites Open Reading Frames Agarose Gel

Annealing temperature: 55 °C Polymerase used:

0 2288

This panel is not implemented yet

PCR product Inverted PCR product Alignment Info

The PCR products are shown here. Click on any PCR product or primer to get its sequence and info.

To start the analysis just click on check:

Oligo database sample.txt

Oligos in List: 409 (longest oligo: 72 nts)

Number	Oligo Name	Sequence
125	US-mGHR-exon2-5838CAGCCACTCTTGGGCTTCT	
126	US-mGHR-exon2-5872ATGGAGACTGGTGGCTCTTG	
127	US-mGHR-exon2-5921CACAGTCATTCCACGGGTTTC	
128	S0212	ACCCAAGCCACCTTCCC
129	DS-11316	TTGCCATCTGGAGACGGTAT
130	DS-12105	TCTTCTTGCTTTGTACGGTC
131	DS-12104	CTTCTTGCTTTGTACGGTCA
132	S500A diagnostic	CCAGCGTGTTCGAGCCTG

Current sequence: M33324 mouse GHR BP

```
CCGCACCAAG AATAACCAAG GAAACGTCTA CAAAATTCA ACCCTAGCTT
CTCTACCAGA TTTTAACTAA ACGAGATCTT CTTGCAAAGG TCTCAGGTAT
GGATCTTTGT CAGGCTTCTT TAACCTTGGC ACTGGCAGTC ACCAGCAGCA
CATTTTCTGG AAGTGAGGCT ACACCACTA CTCTGGCAA AGCTTCCCA
GTTCTGCAA GAATCAATCC AAGCCTGGG ACAAGTTCTT CTGGAAGCC
TCGATTCACC AAGTGCTGTT CCCCTGAAC GGAGACATTT TCATGCTACT
GGACAGAAGG AGATAATCCT GATTAAAGA CCCAGGATC TATTCAGCTG
TACTATCTTA AAGCCAAAG CCAAGCAGAA CTCTGAAAG TTTCTCTATA
```

☐ circular 2288 bp Cursor at: 0

Oligos suitable for PCR: 22 oligos found.

Number	Oligo name	Strand	Position	MatchLength
48	Human GHR F	+	134	12
51	Human GHR R3	-	1109	19
113	Rat GHR R0	-	817	15
117	Rat GHR R6	-	2049	18
152	rGHR lower primer 1714	-	1925	16
153	rGHR truncated gap junction pr	+	710	14
154	rGHR upper primer 284	+	424	15
188	US-h/mGHR-1702	+	1914	22
189	US-h/mGHR-1909	+	2124	26
196	US-mGHR-(-834)	+	932	21
197	DS-mGHR-929	-	1107	23

new oligo check

Primers selected for PCR:

Number	Name	Position	MatchLength
upper:			
lower:			

PCR Restriction sites Open Reading Frames Agarose Gel

Annealing temperature: 55 °C Polymerase used:

0 2288

This panel is not implemented yet

PCR product Inverted PCR product Alignment Info

The PCR products are shown here. Click on any PCR product or primer to get its sequence and info.

OligoChecker checks the oligos against the sequence and displays any which have at least a 12 bp match at the 3' end. The information it shows are: the number and quality of the oligo, the oligo name, on which strand it binds, at what position in the sequence, and the length of the match at the 3' end.

To continue I usually sort the found oligos by position – so just click on the position header:

Oligos in List: 409 (longest oligo: 72 nts)

Number	Oligo Name	Sequence
125	US-mGHR-exon2-5838CAGCCACTCTTGGGCTTCT	
126	US-mGHR-exon2-5872ATGGAGACTGGTGGCTCTTG	
127	US-mGHR-exon2-5921CACAGTCATTCCAGGGTTC	
128	S0212	ACCCAAGCCACCTTCCC
129	DS-11316	TTGCCATCTGGAGACGGTAT
130	DS-12105	TCTTCTGCTTTGTACGGTC
131	DS-12104	CTTCTGCTTTGTACGGTCA
132	S500A diagnostic	CCAGCGTGTTCGACCTG

Current sequence: M33324 mouse GHR BP

```
CCGCACCAAG AAATAACCAG GAAACGTCTA CAAAATTTCA ACCCTAGCTT
CTCTACCAGA TTTTAACTAA ACGAGATCTT CTTCGAAAGG TCTCAGGTAT
GGATCTTTGT CAGGCTCTCT TAACCTTGGC ACTGGCAGTC ACCAGCAGCA
CATTTTCTGG AAGTGAGGCT ACACCAAGCTA CTCTGGCAA AGCTTCCCCA
GTTCTGCAAA GAATCAATCC AAGCCTGGGG ACAAGTTCTT CTGGAAAGCC
TCGATTACCC AAGTGTCTTT CCCCTGAAGT GGAGACATTT TCATGCTACT
GGACAGAAGG AGATAATCCT GATTAAAGA CCCCAGGATC TATTCAGCTG
TACTATCTTA AAGGCAAGG CCAAGCAGAA CTTCAGAAAT TTGCTATCA
```

☐ circular 2288 bp Cursor at: 0

Oligos suitable for PCR: 22 oligos found.

Number	Oligo name	Strand	Position	MatchLength
292	DS-XhoI-Sall-mGHR-Signal	-	116	27
48	Human GHR F	+	134	12
154	rGHR upper primer 284	+	424	15
153	rGHR truncated gap junction pr	+	710	14
113	Rat GHR R0	-	817	15
256	US-PmlI-mGHR-Stalk	+	923	24
196	US-mGHR-(-834)	+	932	21
197	DS-mGHR-929	-	1107	23
319	DS-mGHR-929 (Replacement for #19...	-	1107	23
51	Human GHR R3	-	1109	19
257	DS-XhoI-BfRI-mGHR-exon10	-	1484	20

new oligo check

Primers selected for PCR:

Number	Name	Position	MatchLength
upper:			
lower:			

PCR Restriction sites Open Reading Frames Agarose Gel

Annealing temperature: 55 °C Polymerase used:

0 2288

This panel is not implemented yet

PCR product Inverted PCR product Alignment Info

The PCR products are shown here. Click on any PCR product or primer to get its sequence and info.

To select one of the suitable oligos for PCR just double-click it:

Oligos in List: 409 (longest oligo: 72 nts)

Number	Oligo Name	Sequence
125	US-mGHR-exon2-5838CAGCCACTCTTGGGCTTCT	
126	US-mGHR-exon2-5872ATGGAGACTGGTGGCTCTTG	
127	US-mGHR-exon2-5921CACAGTCATTCCAGGGTTC	
128	S0212	ACCCAAGCCACCTTCCC
129	DS-11316	TTGCCATCTGGAGACGGTAT
130	DS-12105	TCTTCTGCTTTGTACGGTC
131	DS-12104	CTTCTGCTTTGTACGGTCA
132	S500A diagnostic	CCAGCGTGTTCGACCTG

Current sequence: M33324 mouse GHR BP

```
CCGCACCAAG AAATAACCAG GAAACGTCTA CAAAATTTCA ACCCTAGCTT
CTCTACCAGA TTTTAACTAA ACGAGATCTT CTTCGAAAGG TCTCAGGTAT
GGATCTTTGT CAGGCTCTCT TAACCTTGGC ACTGGCAGTC ACCAGCAGCA
CATTTTCTGG AAGTGAGGCT ACACCAAGCTA CTCTGGCAA AGCTTCCCCA
GTTCTGCAAA GAATCAATCC AAGCCTGGGG ACAAGTTCTT CTGGAAAGCC
TCGATTACCC AAGTGTCTTT CCCCTGAAGT GGAGACATTT TCATGCTACT
GGACAGAAGG AGATAATCCT GATTAAAGA CCCCAGGATC TATTCAGCTG
TACTATCTTA AAGGCAAGG CCAAGCAGAA CTTCAGAAAT TTGCTATCA
```

☐ circular 2288 bp Cursor at: 0

Oligos suitable for PCR: 22 oligos found.

Number	Oligo name	Strand	Position	MatchLength
292	DS-XhoI-Sall-mGHR-Signal	-	116	27
48	Human GHR F	+	134	12
154	rGHR upper primer 284	+	424	15
153	rGHR truncated gap junction pr	+	710	14
113	Rat GHR R0	-	817	15
256	US-PmlI-mGHR-Stalk	+	923	24
196	US-mGHR-(-834)	+	932	21
197	DS-mGHR-929	-	1107	23
319	DS-mGHR-929 (Replacement for #19...	-	1107	23
51	Human GHR R3	-	1109	19
257	DS-XhoI-BfRI-mGHR-exon10	-	1484	20

new oligo check

Primers selected for PCR:

Number	Name	Position	MatchLength
upper:	153 rGHR truncated gap junction pr	710	14
lower:			

PCR Restriction sites Open Reading Frames Agarose Gel

Annealing temperature: 55 °C Polymerase used:

0 2288

This panel is not implemented yet

PCR product Inverted PCR product Alignment Info

The PCR products are shown here. Click on any PCR product or primer to get its sequence and info.

The respective information is transferred into the “Primers selected for PCR” field.

As soon as you have selected an upper and lower primer both the PCR product and the inverted product are displayed (please note that some Polymerases add an additional A at the 3' end of the PCR product).

Oligo database sample.txt

Oligos in List: 409 (longest oligo: 72 nts)

Number	Oligo Name	Sequence
125	US-mGHR-exon2-5838CAGCCACTCTTGGCTTCT	
126	US-mGHR-exon2-5872ATGGAGACTGGTGGCTTTG	
127	US-mGHR-exon2-5921CACAGTCATTCCAGGGTTC	
128	S0212	ACCCAAGCCACCTCC
129	DS-11316	TTGCCATCTGGAGACGGTAT
130	DS-12105	TCTTCTTGGCTTTGACGGTC
131	DS-12104	CTTCTTGGCTTTGACGGTCA
132	S500A diagnostic	CCAGCGTGTTCGAGCCTG

Current sequence: M33324 mouse GHR BP

CCGCACCAAG AAATAACCAG GAAACGTCTA CAAAATTTCA ACCCTAGCTT CTCTACCAGA TTTTAACATA ACGAGATCTT CTTGCAAAG TCTCAGGTAT GGATCTTTGT CAGGTCTTCT TAACCTTGGC ACTGGCAGTC ACCAGCAGCA CATTTTCTGG AAGTGAAGCT ACACAGCTA CTCTTGGCAA ACCTTCCCA GTTCTGCAAA GAATCAATCC AAGCCTGGG ACAAGTTCTT CTGAAAGCC TCGATTACC AGATGCTGT CCCCTGAAC GGAGCATTT TCATGCTACT GGACAGAAG AGATAATCTT GATTTAAGA CCCAGGATC TATTCAGCTG

Primers selected for PCR:

Number	Name	Position	MatchLength
upper: 153	rGHR truncated gap junction pr	710	14
lower: 197	DS-mGHR-929	1107	23

PCR Restriction sites Open Reading Frames Agarose Gel

Annealing temperature: 55 °C Polymerase used:

0 2288

This panel is not implemented yet

Oligos suitable for PCR: 22 oligos found.

Number	Oligo name	Strand	Position	MatchLength
292	DS-XhoI-Sall-mGHR-Signal	-	116	27
48	Human GHR F	+	134	12
154	rGHR upper primer 284	+	424	15
153	rGHR truncated gap junction pr	+	710	14
113	Rat GHR R0	-	817	15
256	US-PmlI-mGHR-Stalk	+	923	24
196	US-mGHR-(-834)	+	932	21
197	DS-mGHR-929	-	1107	23
319	DS-mGHR-929 (Replacement for #19...	-	1107	23
51	Human GHR R3	-	1109	19
257	DS-XhoI-BfrI-mGHR-exon10	-	1484	20

PCR product Inverted PCR product Alignment Info

GATGTGGACGATGAAATTCAGTCAAGAAGTAAATGAATCAAAATGGAAAGTGATG GGCCCTATATGGTTAACAATCTGTCAGTGTACTATTGAGAAATGGATAAAGAACAT GAAGTGGGGTGAGATCCAGACAACGGAGCTTTGAAAGTACAGCGAGTTCAGCGAA GTCCCTCCGTGAATATTCTCTCAGACGAACATATTGGAAGCATGTGAAGAAGATATC CAGTTCCATGGTCTTAATTATTATCTTTGGAATATTGGAGTAGCAGTCAATGCTA TTTGTAGTTATATTTCAGGAACCAAGTCCAATCTCAGCACCACATCAAGAGATT GACAACCACTGTATCACCAGCTCAGAGGATCCGCCATCCCAAGCAGCAAGGATT AAGATGCTGATTTACCCAGTCCAGTTCACCAAGTAAAGGG

The PCR products are shown here. Click on any PCR product or primer to get its sequence and info.

new oligo check

Please note that this release is an interim release – the tab panel for graphical representation on the right is non-functional yet, and the new preference settings are not active yet. However as there was a crashing bug in the last official release which is fixed in this version I decided to publish this version before continuing with a major rewrite necessary for version 3.

To add new oligos to OligoChecker just click on new oligo. Enter the data as required.

Oligo

Oligo Number: 55 Quality on gel: A

Oligo Name: Human GHR R7

Sequence: AACGTTATGCCCCAGTCA

ordered by: PC T Institute: Molecular Medicine

date: 26.8.99 internal PO number:

supplier: GIBCO scale: 50 nmol

purity: Standard HPLC modifications:

order number: 105671 01 primer order number: C2828E11

description:

comments:

OD: 12.50 µg's:

MW: [µg/µmol] nmoles:

Ext. Coeff: [OD/µmol] Coupling Eff.: %

Tm (1 M Na+): 65 Tm (50 mM Na+): 44

% GC:

made up in: to final concentration of µM

☐ keep selected settings for repeated entry

don't save save

This program is completely free – however if you find it useful please consider supporting the further development of this program with a donation.