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## Supplementary information

# Accelerated RNA detection using tandem CRISPR nucleases

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# Accelerated RNA detection using tandem CRISPR nucleases

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**SUPPLEMENTARY INFORMATION:**

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**Supplementary Table 1. Analysis of unmodified TtCsm6 activator degradation using LC-MS**

| Sample | $cA_4/A_4$>P (-2) (*m*/*z*=657.15) (Ion counts) | $cA_4/A_4$>P (-1) (*m*/*z*=1315.3) (Ion counts) | $A_2$>P (-1) (*m*/*z*=657.15) (Ion counts) |
|---|---|---|---|
| TtCsm6 + $cA_4$ | ND | ND | 15199 |
| $cA_4$ | 97219 | 26959 | ND |
| TtCsm6 + $A_4$>P | ND | ND | 6432 |
| $A_4$>P | 73529 | 13879 | ND |

ND: Not detected.
$cA_4$: cyclic tetraadenylate
$A_4$>P: linear tetraadenylate with 2´,3´-cyclic phosphate

**Supplementary Table 2. Analysis of single-fluoro TtCsm6 activator degradation using LC-MS**

| Sample | A-fA-AA>P (*m*/*z*=658.15) (Ion counts) | A-fA-AA>P (*m*/*z*=1317.3) (Ion counts) | fA-AA>P or A-fA-A>P (*m*/*z*=988.573) (Ion counts) |
|---|---|---|---|
| TtCsm6 + A-fA-AA>P | ND | ND | 3606 |
| A-fA-AA>P | 14919 | 4875 | 517 |

ND: Not detected.
fA: 2´-fluoro modified adenosine
A>P: adenosine with 2´,3´-cyclic phosphate terminus

# Supplementary Table 3: RNA oligonucleotide sequences

| Name | Sequence | Origin/target (if applicable) | Vendor | Figures used |
|---|---|---|---|---|
| crRNA GJK_073 | UAGACCAGCCCAAAAAUGAAGGGCACUAAAACGCAGCGCCUCUUGCAACGAUUAAAUACU | First spacer sequence from the CRISPR array of Lachnospiraceae bacterium genome; targets GJK075 | IDT | Fig. 1 |
| GJK_075 | AGUAUUUAAUCGUUGCAAGAGGCGCUGCUC | Cas13 target RNA (complementary to GJK073) | IDT | Fig. 1 |
| IVT transcript g7 | CAGGUUACUAUAGCAGAGAUAUUACUAAUUAUUAUGAGGACUUUUAAAGUUUCCAUUUGGAAUCUUGAUUACAUCAUAAACCUCAUAAUUAAAAAUUUA<br>UCUAAGUCACUAACUGAGAAUAAAUAUUCUCAAUUAGAUGAAGAGCAACCAAUGGAGAUUGAUUAAACGAACAUGAAAAUUAUUCUUUUCUUGGCACUG<br>AUAACACUCGCUACUUGUGAGCUUUAUCACUACCAAGAGUGUGUUAGAGGUACAACAGUACUUUUAAAAGAACCUUGCUCUUCUGGAACAUACGAGGGC<br>AAUUCACCAUUUCAUCCUCUAGCUGAUAACAAAUUUGCACUGACUUGCUUUAGCACUCAAUUUGCUUUUGCUUGUCCUGACGGCGUAAAACACGUCUAU<br>CAGUUACGUGCCAGAUCAGUUUCACCUAAACUGUUCAUCAGACAAGAGGAAGUUCAAGAACUUUACUCUCCAAUUUUUCUUAUUGUUGCGGCAAUAGUG<br>UUUAUAACACUUUGCUUCACACUCAAAAGAAAGACAGAAUGAUUGAACUUUCAUUAAUUGACUUCUAUUUGUGCUUUUUAGCCUUUCUGCUAUUCCUUG<br>UUUUAAUUAUGCUUAUUAUCUUUUGGUUCUCACUUGAACUGCAAGAUCAUAAUGAAACUUGUCACGCCUAAACGAACAUGAAAUUUCUUGUUUUCUUAG<br>GAAUCAUCACAACUGUAGCUGCAUUUCACAAGAAUGUAGUUUACAGUCAUGUACUCAACAUCAACCAUAUGUAGUUGAUGACCCGUGUCCUAUUCACU<br>UCUAUUCUAAAUGGUAUAUUAGAGUAGGAGCUAGAAAAUCAGCACCUUUAAUUGAAUUGUGCGUGGAUGAGGCUGGUUCUAAAUCACCCAUUCAGUACA<br>UCGAUAUCGGUAAUUAUACAGUUUCCUGUUUACCUUUUACAAUUAAUUGCCAGGAACCUAAAAUGGGUAGUCUUGUAGUGCGUUGUUCGUUCUAUGAAG<br>ACUUUUUAGAGUAUCAUGACGUUCGUGUUGUUUUAGAUUUCAUCUAAACGAACAAACUAAAAUGUCUGAUAAUGGACCCCAAAAUCAGCGAAAUGCACC<br>CCGCAUUACGUUUGGUGGACCCUCAGAUUCAACUGGCAGUAACCAGAAUGGAGAACGCAGUGGGGCGCGAUCAAAACAACGUCGGCCCCAAGGUUUACC<br>CAAUAAUACUGCGUCUUGGUUCACCGCUCUCACUCAACAUGGCAAGGAAGACCUUAAAUUCCCUCGAGGACAAGGCGUUCCAAUUAACACCAAUAGCAG<br>UCCAGAUGACCAAAUUGGCUACUACCGAAGAGCUACCAGACGAAUUCGUGGUGGUGACGGUAAAAUGAAAGAUCUCAGUCCAAGAUGGUAUUUCUACUA<br>CCUAGGAACUGGGCCAGAAGCUGGACUUCCCUAUGGUGCUAACAAAGACGGCAUCAUAUGGGUUGCAACUGAGGGAGCCUUGAAUACACCAAAAGAUCA<br>CAUUGGCACCCGCAAUCCUGCUAACAAUGCUGCAAUCGUGCUACAACUUCCUCAAGGAACAACAUUGCCAAAAGGCUUCUACGCAGAAGGGAGCAGAGG<br>CGGCAGUCAAGCCUCUUCUCGUUCCUCAUCACGUAGUCGCAACAGUUCAAGAAAUUCAACUCCAGGCAGCAGUAGGGGAACUUCUCCUGCUAGAAUGGC<br>UGGCAAUGGCGGUGAUGCUGCUCUUGCUUUGCUGCUGCUUGACAGAUUGAACCAGCUUGAGAGCAAAAUGUCUGGUAAAGGCCAACAACAACAAGGCCA<br>AACUGUCACUAAGAAAUCUGCUGCUGAGGCUUCUAAGAAGCCUCGGCAAAAACGUACUGCCACUAAAGCAUACAAUGUAACACAAGCUUUCGGCAGACG<br>UGGUCCAGAACAAACCCAAGGAAAUUUUGGGGACCAGGAACUAAUCAGACAAGGAACUGAUUACAAACAUUGGCCGCAAAUUGCACAAUUUGCCCCCAG<br>CGCUUCAGCGUUCUUCGGAAUGUCGCGCAUUGGCAUGGAAGUCACACCUUCGGGAACGUGGUUGACCUACACAGGUGCCAUCAAAUUGGAUGACAAAGA<br>UCCAAAUUUCAAAGAUCAAGUCAUUUUGCUGAAAGCAUAUUGACGCAUACAAAACAUUCCCACCAACAGAGCCUAAAAAGGACAAAAAGAAGAAGGC<br>UGAUGAAACUCAAGCCUUACCGCAGAGACAGAAGAAACAGCAAACUGUGACUCUUCUUCCUGCUGCAGAUUUGGAUGAUUUCUCCAAACAAUUGCAACA<br>AUCCAUGAGCAGUGCUGACUCAACUCAGGCCUAAACUCAUGCAGACCACACAAGGCAGAUGGGCUAUAUAAACGUUUUCGCUUUUCCGUUUACGAUAUA<br>UAGUCUACUCUUGUGCAGAAUGAAUUCUCGUAACUACAUAGCACAAGUAGAUGUAGUUAACUUUAAUCUCACAUAGCAAUCUUUAAUCAGUGUGUAACA<br>UUAGGGAGGACUUGAAAGAGCCACCACAUUUUCACCGAGGCCACGCGGAGUACGAUCGAGUGUACAGUGAACAAUGCUAGGGAGAGCUGCCUAUAUGGA<br>AGAGCCCUAAUGUGUAAAAUUAAUUUUAGUAGUGCUAUCCCCAUGUGAUUUUAAUAGCUUCUUAGGAGAAUGACAAAAAAAAAAAAAAAAAAA | Fragment of the SARS-CoV2-genome (includes part of the ORF6 gene, and the complete ORF7a, ORF7b, ORF8, N, and ORF10 genes). | N/A | Fig. 2, Extended Data Fig. 4 |
| crRNA 604 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACGGUCCACCAAACGUAAUGCG | Targets N gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 2-4, Extended Data Fig. 4, 6 |
| crRNA 612 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACUUUGCGGCCAAUGUUUGUAA | Targets N gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 2-4, Extended Data Fig. 4, 6 |
| crRNA 542 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACAAACUACGUCAUCAAGCCAA | Targets Orf1a gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 3B-C, Fig. 4, Extended Data Fig. 6 |
| crRNA 546 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACCACAGUCAUAAUCUAUGUUA | Targets Orf1a gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 3B-C, Fig. 4, Extended Data Fig. 6 |
| crRNA 564 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACUCACACUUUUCUAAUAGCAU | Targets Orf1ab gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 3B-C, Fig. 4, Extended Data Fig. 6 |
| crRNA 569 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACUGUAAGAUUAACACACUGAC | Targets S gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 3B-C, Fig. 4, Extended Data Fig. 6 |
| crRNA 588 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACUUAAUUGUGUACAAAAACUG | Targets S gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 3B-C, Fig. 4, Extended Data Fig. 6 |
| crRNA 596 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACCAGUUGUGAUGAUUCCUAAG | Targets Orf8 gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 3B-C, Fig. 4, Extended Data Fig. 6 |
| crRNA 516 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACCAAAAGCCUCAACACGUAGA | Targets Orf1a gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 3A |
| crRNA 517 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACCAUGUUGAAACAAGUAACUC | Targets Orf1a gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 3A |
| crRNA 528 | UAGACCACCCCAAAAAUGAAGGGGACUAAAACUCAACGAUGUAAGAAGACUG | Targets Orf1a gene in SARS-CoV-2 genome | Synthego Corporation | Fig. 3A |
| crRNA R004 | AUUUAGACCACCCCAAAAAUGAAGGGGACUAAAACACAGAUAUAGCCUGGUGGUUCAGGC | Targets R004 | IDT | Extended Data Fig. 3 |
| crRNA R010 | AAAAGCCUGAACCACCAGGCUAUAUCUG | Cas13 target RNA (complementary to R004) | IDT | Extended Data Fig. 3 |
| C5 reporter | 6-FAM-CCCCC-Iowa Black® | Fluorescent reporter RNA for Csm6 | IDT | Figs. 1-4, Extended Data Figs. 1, 3, 4, 6 |
| U5 reporter | 6-FAM-UUUUU-Iowa Black® | Fluorescent reporter RNA for Cas13 | IDT | Fig. 3B |
| TtCsm6 activator 497 | A-fA-AAUUUUUU | TtCsm6 single-fluoro activator | IDT | Fig. 2-4, Extended Data Fig. 6 |
| TtCsm6 activator 470 | A-dA-AAUUUUUU | TtCsm6 single-deoxy activator | IDT | Fig. 2 |
| TtCsm6 activator 142 | AAAAUUUUUU | TtCsm6 unmodified activator | IDT | Fig. 1,2 |
| EiCsm6 Activator 767 | AA-fA-AAAUUUUU | EiCsm6 single-fluoro activator | IDT | Fig. 2, Extended Data Fig. 4 |
| EiCsm6 Activator 766 | AA-dA-AAAUUUUU | EiCsm6 single-deoxy activator | IDT | Fig. 2, Extended Data Fig. 4 |
| EiCsm6 Activator 768 | AAAAAAUUUUU | EiCsm6 unmodified activator | IDT | Fig. 2, Extended Data Fig. 4 |
| TtCsm6 activator 837 | AAAA>P | TtCsm6 unmodified activator | IDT | Extended Data Fig. 1A |
| TtCsm6 activator 839 | A-fA-AA>P | TtCsm6 single-fluoro activator | IDT | Extended Data Fig. 1B |
| TtCsm6 activator 838 | A-dA-AA>P | TtCsm6 single-deoxy activator | IDT | Extended Data Fig. 1C |
| TtCsm6 activator 374 | fA-fA-fAAUUUUUU | TtCsm6 triple-fluoro activator | IDT | Extended Data Fig. 3A |
| TtCsm6 activator 373 | dA-dA-dAAUUUUUU | TtCsm6 triple-deoxy activator | IDT | Extended Data Fig. 3B |
| TtCsm6 activator 372 | mA-mA-mAAUUUUUU | TtCsm6 triple-O-methyl activator | IDT | Extended Data Fig. 3C |
| TtCsm6 activator 778 | AAAUUUUUU | TtCsm6 activator | IDT | Figure 1B |
| TtCsm6 activator 777 | AAAAAUUUUUU | TtCsm6 activator | IDT | Figure 1B |
| TtCsm6 activator 765 | AAAAAAUUUUUU | TtCsm6 activator | IDT | Figure 1B |
| TtCsm6 cyclic A4 activator | cAAAA | TtCsm6 cyclic oligoadenylate activator | Axxora, LLC | Extended Data Tables 1, 2 |

**Guide region is underlined in crRNA sequences**
**6-FAM: 6-carboxyfluorescein**
**Iowa Black: FAM quencher moiety (IDT)**
**fA: 2´-fluoro adenosine**
**dA: 2´-deoxy adenosine**
**mA: 2´-O-methyl adenosine**
**A>P: adenosine with 2´,3´-cyclic phosphate**
**cA4: cyclic tetraadenylate**

**Supplementary Table 4. Inclusivity of crRNAs used for targeting SARS-CoV-2 genome**

| Sequence name | Inclusivity | crRNA sequence | Target Sequence |
|---|---|---|---|
| crRNA_542 | 51485 | AAACUACGUCAUCAAGCCAA | TTGGCTTGATGACGTAGTTT |
| crRNA_546 | 51383 | CACAGUCAUAAUCUAUGUUA | TAACATAGATTATGACTGTG |
| crRNA_564 | 51527 | UCACACUUUUCUAAUAGCAU | ATGCTATTAGAAAAGTGTGA |
| crRNA_569 | 50313 | UGUAAGAUUAACACACUGAC | GTCAGTGTGTTAATCTTACA |
| crRNA_588 | 51602 | UUAAUUGUGUACAAAAACUG | CAGTTTTTGTACACAATTAA |
| crRNA_596 | 50705 | CAGUUGUGAUGAUUCCUAAG | CTTAGGAATCATCACAACTG |
| crRNA_604 | 51402 | GGUCCACCAAACGUAAUGCG | CGCATTACGTTTGGTGGACC |
| crRNA_612 | 51372 | UUUGCGGCCAAUGUUUGUAA | TTACAAACATTGGCCGCAAA |

## Supplementary Table 5. Concordance of qRT-PCR with FIND-IT for COVID-19-positive samples

| Positive sample* | Ct value (MS2 control) | Ct value (ORF1ab) | Ct value (N Gene) | Ct value (S Gene) | Average Ct (SARS-CoV-2 targets) | FIND-IT detection by 20 min (89%) | FIND-IT detection by 40 min (100%) |
|---|---|---|---|---|---|---|---|
| 1 | 27.80991223 | 30.72450298 | 31.17384269 | Undetermined | 31 | + | + |
| 2 | 24.77639084 | 20.17281229 | 20.61502547 | 20.01952133 | 20 | + | + |
| 3 | 34.20813202 | 9.748285245 | 8.052348627 | 9.85663647 | 9 | + | + |
| 4 | 24.40656439 | 28.95193018 | 28.69280874 | 29.0711194 | 29 | - | + |
| 5 | 24.70598006 | 25.43325559 | 25.34668928 | 25.10110915 | 25 | + | +** |
| 6 | 24.11735976 | 32.83907625 | 33.03642688 | 33.18515867 | 33 | + | + |
| 7 | 23.5612614 | 29.4131354 | 29.87492594 | 30.10099439 | 30 | + | + |
| 8 | 23.87471815 | 23.9159483 | 24.97523402 | 24.19639902 | 24 | + | + |
| 9 | 24.13812574 | 27.34719638 | 28.1814998 | 27.5645256 | 28 | + | + |

*Samples were considered positive if at least 2 of 3 SARS-CoV-2 targets had a Ct of 37 or lower.
**Experiment was run only for 33 min (see Extended Data Fig. 9), but was detected as positive before 40 min.

# Supplementary Note 1

## 1) Chemical equations for Cas13 to Csm6 transduction model

### 1.1 cas13 on target activity

$$\mathrm{cas}_{13} + \mathrm{guide} \underset{1\,\mathrm{sec}^{-1}}{\overset{1\,\mathrm{nM}^{-1}\mathrm{sec}^{-1}}{\rightleftarrows}} \mathrm{rnp}$$

$$\mathrm{rnp} + \mathrm{target} \underset{1\,\mathrm{sec}^{-1}}{\overset{1\,\mathrm{nM}^{-1}\mathrm{sec}^{-1}}{\rightleftarrows}} \mathrm{rnpActive}$$

$$\mathrm{rnpActive} + \mathrm{a_4u_6} \underset{2000\,\mathrm{sec}^{-1}}{\overset{1\,\mathrm{nM}^{-1}\mathrm{sec}^{-1}}{\rightleftarrows}} \mathrm{rnpActivea_4u_6}$$

$$\mathrm{rnpActivea_4u_6} \xrightarrow{200\,\mathrm{sec}^{-1}} \mathrm{rnpActive} + \mathrm{a_4}$$

### 1.2 cas13 background activity

$$\mathrm{rnp} + \mathrm{a_4u_6} \underset{2000\,\mathrm{sec}^{-1}}{\overset{1\,\mathrm{nM}^{-1}\mathrm{sec}^{-1}}{\rightleftarrows}} \mathrm{rnpa_4u_6}$$

$$\mathrm{rnpa_4u_6} \xrightarrow{4 \cdot 10^{-7}\,\mathrm{sec}^{-1}} \mathrm{rnp} + \mathrm{a_4}$$

### 1.3 csm6 activity

$$\mathrm{csm_6} + \mathrm{a_4} \underset{63\,\mathrm{sec}^{-1} - \mathrm{csm_6\ carf\ domain\ kcat}}{\overset{1\,\mathrm{nM}^{-1}\mathrm{sec}^{-1}}{\rightleftarrows}} \mathrm{csm_6Active}$$

$$\mathrm{csm_6Active} \xrightarrow{\mathrm{csm_6\ carf\ domain\ kcat}} \mathrm{csm_6}$$

$$\mathrm{csm_6Active} + \mathrm{reporter} \underset{5000\,\mathrm{sec}^{-1}}{\overset{1\,\mathrm{nM}^{-1}\mathrm{sec}^{-1}}{\rightleftarrows}} \mathrm{csm_6ActiveReporter}$$

$$\mathrm{csm_6ActiveReporter} \xrightarrow{0.4\,\mathrm{sec}^{-1}} \mathrm{csm_6Active} + \mathrm{product}$$

## 2) Cas13 to Csm6 transduction model

### 2.1 Ordinary differential equations for component concentrations

$$\begin{aligned}
c'_{\text{a4}}(t) =& - c_{\text{a4}}(t)c_{\text{csm6}}(t) + (63 - \text{csm6 Carf domain kcat}) \\
& c_{\text{csm6Active}}(t) + \frac{c_{\text{rnpa4u6}}(t)}{2500000} + 200c_{\text{rnpActivea4u6}}(t),
\end{aligned}$$

$$\begin{aligned}
c'_{\text{a4u6}}(t) =& - c_{\text{a4u6}}(t)c_{\text{rnp}}(t) - c_{\text{a4u6}}(t)c_{\text{rnpActive}}(t) + \\
& 2000c_{\text{rnpa4u6}}(t) + 2000c_{\text{rnpActivea4u6}}(t),
\end{aligned}$$

$$c'_{\text{cas13}}(t) = c_{\text{rnp}}(t) - c_{\text{cas13}}(t)c_{\text{guide}}(t),$$

$$\begin{aligned}
c'_{\text{csm6}}(t) =& - c_{\text{a4}}(t)c_{\text{csm6}}(t) + \\
& (63 - \text{csm6 Carf domain kcat})c_{\text{csm6Active}}(t) + \\
& \text{csm6 Carf domain kcat}c_{\text{csm6Active}}(t),
\end{aligned}$$

$$\begin{aligned}
c'_{\text{csm6Active}}(t) =& c_{\text{a4}}(t)c_{\text{csm6}}(t) - (63 - \text{csm6 Carf domain kcat})c_{\text{csm6Active}}(t) - \\
& \text{csm6 Carf domain kcat}c_{\text{csm6Active}}(t) - c_{\text{csm6Active}}(t) \\
& c_{\text{reporter}}(t) + 5000.4c_{\text{csm6ActiveReporter}}(t),
\end{aligned}$$

$$c'_{\text{csm6ActiveReporter}}(t) = c_{\text{csm6Active}}(t)c_{\text{reporter}}(t) - 5000.4c_{\text{csm6ActiveReporter}}(t),$$

$$c'_{\text{guide}}(t) = c_{\text{rnp}}(t) - c_{\text{cas13}}(t)c_{\text{guide}}(t),$$

$$c'_{\text{product}}(t) = 0.4c_{\text{csm6ActiveReporter}}(t),$$

$$c'_{\text{reporter}}(t) = 5000c_{\text{csm6ActiveReporter}}(t) - c_{\text{csm6Active}}(t)c_{\text{reporter}}(t),$$

$$\begin{aligned}
c'_{\text{rnp}}(t) =& - c_{\text{a4u6}}(t)c_{\text{rnp}}(t) + c_{\text{cas13}}(t)c_{\text{guide}}(t) - c_{\text{rnp}}(t)c_{\text{target}}(t) - \\
& c_{\text{rnp}}(t) + \frac{5000000001c_{\text{rnpa4u6}}(t)}{2500000} + c_{\text{rnpActive}}(t),
\end{aligned}$$

$$c'_{\text{rnpa4u6}}(t) = c_{\text{a4u6}}(t)c_{\text{rnp}}(t) - \frac{5000000001c_{\text{rnpa4u6}}(t)}{2500000},$$

$$c'_{\text{rnpActive}}(t) = - c_{\text{a4u6}}(t)c_{\text{rnpActive}}(t) + c_{\text{rnp}}(t)c_{\text{target}}(t) - c_{\text{rnpActive}}(t) + 2200c_{\text{rnpActivea4u6}}(t),$$

$$c'_{\text{rnpActivea4u6}}(t) = c_{\text{a4u6}}(t)c_{\text{rnpActive}}(t) - 2200c_{\text{rnpActivea4u6}}(t),$$

$$c'_{\text{target}}(t) = c_{\text{rnpActive}}(t) - c_{\text{rnp}}(t)c_{\text{target}}(t),$$

### 2.2 Starting concentrations of components

$$\begin{aligned}
c_{\text{a4}}(0) &= 0nM & c_{\text{csm6}}(0) &= 100nM & c_{\text{guide}}(0) &= 13.5078nM \\
c_{\text{a4u6}}(0) &= 2000nM & c_{\text{csm6Active}}(0) &= 0nM & c_{\text{product}}(0) &= 0nM \\
c_{\text{cas13}}(0) &= 13.5078nM & c_{\text{csm6ActiveReporter}}(0) &= 0nM & c_{\text{rnp}}(0) &= 36.4922nM \\
c_{\text{rnpa4u6}}(0) &= 0nM & c_{\text{rnpActive}}(0) &= 0nM & c_{\text{rnpActivea4u6}}(0) &= 0nM \\
c_{\text{target}}(0) &= \text{target}
\end{aligned}$$

## Supplementary Note 2

**Members of the IGI SARS-CoV-2 Testing Consortium**

(Current list also available at: https://innovativegenomics.org/covid-19/consortium/)

**The following members were involved in the original set-up and operations of what is now the IGI Clinical Laboratory as the IGI SARS-CoV-2 Testing Consortium:**

- Alexandra M. Amen
- Kerrie W. Barry
- John M. Boyle
- Cara E. Brook
- Seunga Choo
- T. Cornmesser
- David J. Dilworth
- Jennifer A. Doudna
- Alexander J. Ehrenberg
- Indro Fedrigo
- Skyler E. Friedline
- Thomas G. W. Graham
- Ralph Green
- Jennifer R. Hamilton
- Ariana Hirsh
- Megan L. Hochstrasser
- Dirk Hockemeyer
- Netravathi Krishnappa
- Azra Lari
- Hanqin Li
- Enrique Lin-Shiao
- Tianlin Lu
- Elijah F. Lyons
- Kevin G. Mark
- Lisa Argento Martell
- Raquel O. Martins
- Shana L. McDevitt
- Patrick S. Mitchell
- Erica A. Moehle
- Christine Naca
- Divya Nandakumar
- Elizabeth O'Brien
- Derek J. Pappas
- Kathleen Pestal
- Diana L. Quach
- Benjamin E. Rubin
- Rohan Sachdeva

- Elizabeth C. Stahl
- Abdullah Muhammad Syed
- I-Li Tan
- Amy L. Tollner
- Connor A. Tsuchida
- Kimberly Tsui
- Timothy K. Turkalo
- Fyodor D. Urnov
- Bryan Warf
- Oscar N. Whitney
- Lea B. Witkowsky

**Since the initial establishment of the IGI Clinical Laboratory, these additional members have been added to the IGI SARS-CoV-2 Testing Consortium:**

- Sundar Balasubramanian
- Alisha Baldwin
- Derek Bangs
- Colin C. Barber
- Lucie Bardet
- Christopher Barnes
- John Blair
- Mike Boots
- John Boyle
- Andrew H. Doudna Cate
- Alison Ciling
- Maxwell Coyle
- Sumi Desai
- Paige Diamond
- Mohammad Saffari Doost
- Claire Dugast-Darzacq
- David C. Ensminger
- Phillip A. Frankino
- Chris Gawronski
- Kristina Geiger
- Petros Giannikopoulos
- Holly K. Gildea
- Michael Hunter Green
- Allan Gopez
- Anna Harte
- Stephanie G. Hays
- Lauren Hunter
- Carina Jaegers
- Nicholas Karavolias
- Jonathan Karr
- Amanda Keller

- Jamie Lahvic
- Emily K. Lam
- Siyoun Lee
- Kaitlyn N. Letourneau
- Franziska Lorbeer
- Tianlin Lu
- Mariya Lukarska
- Karen Lundy
- Ana Lyons
- Antonio Maffia
- Anna Maurer
- Shally Margolis
- Kevin G. Mark
- Anna Maurer
- Matthew McElroy
- Riley McGarrigle
- Alina Minikhanova
- Andrew J. Modzelewski
- Andrew Murley
- Andrew G. Murdock
- Ben Natan
- Roy Ng
- Guy Nicolette
- Rebekah Oakes
- Janneke Peeters
- Maya Petersen
- Corinne Pender
- Kaila Pianalto
- Alma Rechav
- Bradley R. Ringeisen
- Gabriela Rios-Sotelo
- Catherine Schneider
- Carolyn Sherry
- Korey Sop
- Michael Stadler
- Hailey Stynes
- Iman Sylvain
- Janina Tamborski
- Alexandra Tsitsiklis
- Tim Turkalo
- Luis Valentin-Alvarado
- Clara Williams
- Kurtresha Worden
- Gabrielle Wright
- Madeleine Zhu
- Arielle Zur