**SUPPORTING INFORMATION**

**Data S1.** Specimens with other viruses and hAdV negative specimens ($n=30$).

| Laboratory finding (No.) | Sample material | Reference test                              |
|--------------------------|-----------------|---------------------------------------------|
| Influenza A virus (2)    | NP              | Time-resolved fluoroimmunoassay             |
| Influenza B virus (3)    | NP              | Time-resolved fluoroimmunoassay             |
| Parainfluenzavirus 1 (1) | NP              | Time-resolved fluoroimmunoassay             |
| Respiratory syncytial virus (2) | NP       | Time-resolved fluoroimmunoassay             |
| Negative (3)             | NP              | Time-resolved fluoroimmunoassay             |
| Enterovirus (1)          | Stool           | Virus culture                               |
| Herpes simplex virus type 1 (1) | Tongue swab   | Virus culture                               |
| Herpes simplex virus type 1 (3) | Eye swab     | Virus culture                               |
| Herpes simplex virus type 2 (2) | Vesicle fluid | Virus culture                               |
| Respiratory syncytial virus (1) | NP        | Virus culture                               |
| Varicella zoster virus (1) | Vesicle fluid | Virus culture                               |
| Negative (7)             | Eye swab        | Virus culture                               |
| Rhinovirus (1)           | NP              | Multiplex PCR                               |
| Coronavirus + Rhinovirus (1) | NP           | Multiplex PCR                               |
| Parainfluenzavirus 3+ Rhinovirus (1) | NP    | Multiplex PCR                               |

NP = nasopharyngeal aspirate or swab and other respiratory specimens.
Data S2. Synthesis and surface modification of UCNPs. In the synthesis, methanol solutions of RCl₃ (R: Y, Yb, Er, in total 6 ml) were added to a 100 ml flask containing oleic acid and 1-octadecene (9 and 21 ml, respectively). The solution was then stirred and heated to 160°C for 30 minutes and cooled down to room temperature. A methanol solution containing NH₄F and NaOH (14 ml, 0.1776 and 0.1203 g, respectively) was added to the mixture and stirred for 30 minutes at room temperature. The solution was subsequently heated to and maintained at 300°C for 3 hours and cooled down to room temperature. The formed nanoparticles were separated by the addition of ethanol and collected by centrifugation, washed six times with ethanol and suspended into cyclohexane for further use. The surface modification of UCNPs has been described earlier [29], with the following modifications: Triton X-100 (Acros Organics, Geel, Belgium) was used instead of CO-520 and in addition to tetraethylorthosilicate, also (N-(3-trimethoxysilyl)propyl)ethylene diamine (97%) and 3-(trihydroxysilyl)propyl methylphosphonate (42%, both from Sigma-Aldrich; St. Louis, MO) were used to introduce stabilized aminogroups to the silica as described previously [17]. The incubation time for the surface coating of silica on the nanocrystals was two hours. Aminogroups were converted into carboxylic acid groups with glutaric anhydride (Sigma-Aldrich) [30].
**Data S3. Oligonucleotide probes and PCR primers.**

| Probe / Targeted | Primer Prototype | Sequence (5’→3’) in the gene (nt) | Position in the gene | Length (nt) |
|------------------|------------------|------------------------------------|----------------------|-------------|
| 1 C01            | #TCT TTG CTG GGC AAC GGT CGC TAC GTG C | 283-307 | 28 |
| 2 C02            | #TTT TGT TGT TGG GAA ACG GCC GC | 281-300 | 23 |
| 3 B03            | #TTC GCT GGT CTG CGC TAC AGG TCC ATG C | 259-283 | 28 |
| 4 E04            | #TTT GCT ACG TGC CAT TCC ACA TCC AGG T | 299-323 | 28 |
| 5 C05            | #TTT TCT CCT GCC GGG TCT ACA CAC TTA | 357-381 | 28 |
| 6 B07            | #TCT CTG GYC TAC GCT RCC GGT CCA TGC T | 260-284 | 28 |
| 7 B21            | #TTC GCT TTT GGG CAA TGG TCG TTA CGT G | 282-306 | 28 |
| 8 B14            | #TCT ATC CAT GCT TTT GGG TAA CGG ACG T | 276-300 | 28 |
| 9 A31            | #CCC GCT GCT CCT GCC GGG CTC ATA CAC T | 354-378 | 28 |
| 10 C06           | #TTT CCC GCC ATG CGG GCC TGC GTC CTA CAC T | 251-275 | 28 |
| 11 C01           | #CCC TTT TGC CAT TAA GAA CCT CCT ACT CT | 336-361 | 29 |
| 12 D19           | #TTT CGC ATA CGT CAA CAT CGG TGC GC | 183-205 | 26 |
| 13 F41           | #CTT TAC GTA AAC ATC GGG GCA CGG TGG T | 187-211 | 28 |
| 14 D37           | #CCT ACG CCT ACA TTA ACA TCG GCG CC | 182-204 | 26 |
| 15 D36           | #TTT ATC CAA GTG CCC CAA AAG TTC TTT GCC A | 316-343 | 31 |
| 16 B07           | #TTT ATC CCC ATC TCT GGT TGA TTA ATA CAT C | 165-192 | 31 |
| g1 D08           | #TTT TTT AAC CAC CAC CGC AAT GCG GG CCT | 241-266 | 29 |
| g2 A12           | #TTT TCT TTT AAC CAC CAC CGA AAC GCA GG | 238-263 | 29 |
| g3 B21           | #TTT TTT AAC CAT CAC CGC AAC GCT GG CCT | 241-266 | 29 |
| g4 E04           | #TTT CCC TTC AAC CAC CGC AAT GCG GG | 238-263 | 29 |
| g5 D09           | #TTT TTC AAC CAC CAC CGC AAC GCG GG CCT | 241-266 | 29 |
| g6 B11           | #TTT CCA TTC AAC CAC CAC CGT AAC GCT GG | 238-263 | 29 |
Wobbles: R = A/G, Y = C/T. Bio = biotin. # = amino-C6 modification. nt = nucleotide.

Targeted prototypes for the generic probes and primers include also:

- C01, C02, C05, C06, F40.
- A18, A31.
- D51.
- B03, B07, D15, D17, D20, D25, D26, D32, D42, B50.
- D10, D13, D19, D22, D23, D24, D27, D28, D29, D30, D33, D36, D37, D38, D39, D43, D44, D45, D46, D47, D48, D49.
- B14, B16, B34, B35.
- F40.
- B03, E04, B07, D08, D09, D10, A12, D13, D15, D17, A18, D19, B21, D20, D22, D23, D24, D25, D26, D27, D28, D29, D30, D32, D33, D36, D37, D38, D39, F41, D42, D43, D44, D45, D46, D47, D48, D49, B50, D51.
- B11, B14, B16, A31, B34, B35, F40.
- C01, C02, C05, C06.
Data S4. Assay principle. (1) Sample DNA was amplified with real-time PCR. (2) The biotinylated PCR-products were denatured and (3) hybridized to the oligonucleotide probes in the array well. The bound biotinylated products were detected with streptavidin-coated UCNPs which were excited at 980 nm and luminescence was detected at 550 nm with the anti-Stokes photoluminescence imager.