

SEQUENCE LISTING

<110> National University of Singapore
 <120> Probe Assay For The Detection Of Biomolecules
 <130> 10104SG1264
 <150> SG10201904711X
 <151> 2019-05-24
 <160> 77
 <170> PatentIn version 3.5
 <210> 1
 <211> 24
 <212> DNA
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 <223> ST (split trigger)
 <400> 1
 gagtggatgg tgaaggtgaa ggta 24
 <210> 2
 <211> 39
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 <223> HP1, showing exemplary placement of the detection moiety
 <220>
 <221> misc_feature
 <222> (21)..(22)
 <223> iCy5 is between residues 21 and 22
 <400> 2
 gttggaattg ggagtaaggg ctgtgatgcc cttactccc 39
 <210> 3
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 <223> HP2, showing exemplary placement of the detection moiety

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 <221> misc_feature
 <222> (39)..(39)
 <223> Cy3 is tagged to residue 39

 <400> 3
 gcccttactc ccaattccaa cgggagtaag ggcatacaca 39

 <210> 4
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> F (Fluorophore), showing exemplary placement of the detection moiety

 <220>
 <221> misc_feature
 <222> (21)..(21)
 <223> 3-FAM is tagged to residue 21

 <400> 4
 gttggaattg ggagtaaggg c 21

 <210> 5
 <211> 12
 <212> DNA
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 <220>
 <223> Q (Quencher), showing exemplary placement of the detection moiety

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 <221> misc_feature
 <222> (1)..(1)
 <223> 5IABkFQ is tagged to residue 1

 <400> 5
 gcccttactc cc 12

 <210> 6
 <211> 51
 <212> DNA
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 <223> I1-HP1

<400> 6
taccttcacc tttttttttt tttttttgtg cggcattcaa ttccaactgc c 51

<210> 7
<211> 46
<212> DNA
<213> Artificial Sequence

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<223> I2-HP1

<400> 7
gcccttactc ctgccgcact tttttttttt ttttcacat ccactc 46

<210> 8
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> I1-HP2

<400> 8
taccttcacc tttttttttt tttttttgtg cggcttcaat tccaacagcc 50

<210> 9
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> I2-HP2

<400> 9
gcccttactc cgccgcactt tttttttttt tttcaccatc cactc 45

<210> 10
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> I1-HP3 (A4-6)

<400> 10
taccttcacc tttttttttt tttttttgtg cccttcaatt ccaacaagg 49

<210> 11
<211> 44

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> I2-HP3 (A4-6)

 <400> 11
 gcccttactc cgggcacttt tttttttttt ttcaccatcc actc 44

 <210> 12
 <211> 51
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> I1-HP4

 <400> 12
 taccttcacc tttttttttt tttttttgtg cgccttcaat ttccaacaagg c 51

 <210> 13
 <211> 45
 <212> DNA
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 <223> I2-HP4

 <400> 13
 gcccttactc cggcgactt tttttttttt tttcaccatc cactc 45

 <210> 14
 <211> 52
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 <223> I1-HP5

 <400> 14
 taccttcacc tttttttttt tttttttgtg caggcttcaa ttccaacaag cc 52

 <210> 15
 <211> 46
 <212> DNA
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 <220>
 <223> I2-HP5 and I2-HP6

<400> 15
gcccttactc cgcctgcact tttttttttt ttttcacat ccactc 46

<210> 16
<211> 53
<212> DNA
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<220>
<223> I1-HP6

<400> 16
taccttcacc tttttttttt tttttttgtg caggcttcaa ttccaacgaa gcc 53

<210> 17
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
<223> I1-HP7 (A5-8)

<400> 17
taccttcacc tttttttttt tttttttgtg cagtgttcaa ttccaacgaa cac 53

<210> 18
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> I2-HP7 (A5-8) and I2-HP8

<400> 18
gcccttactc ccactgcact tttttttttt ttttcacat ccactc 46

<210> 19
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> I1-HP8

<400> 19
taccttcacc tttttttttt tttttttgtg cagtgttcaa ttccaactga acac 54

<210> 20
<211> 54

<212> DNA
 <213> Artificial Sequence

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 <223> I1-HP9 (A6-9)

 <400> 20
 taccttcacc tttttttttt ttttttttagt agtggtttca attccaacga aacc 54

 <210> 21
 <211> 47
 <212> DNA
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 <220>
 <223> I2-HP9 (A6-9)

 <400> 21
 gcccttactc caccactact tttttttttt tttttcacca tccactc 47

 <210> 22
 <211> 43
 <212> DNA
 <213> Artificial Sequence

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 <223> I1-A4

 <400> 22
 taccttcacc tttttttttt tttttttgtg cttcaattcc aac 43

 <210> 23
 <211> 42
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> I2-A4

 <400> 23
 gcccttactc cgcacttttt tttttttttt caccatccac tc 42

 <210> 24
 <211> 44
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> I1-A5

<400> 24
taccttcacc tttttttttt tttttttgtg cattcaattc caac 44

<210> 25
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> I2-A5

<400> 25
gcccttactc ctgcactttt tttttttttt tcaccatcca ctc 43

<210> 26
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> I1-A6

<400> 26
taccttcacc tttttttttt ttttttttagt agtttcaatt ccaac 45

<210> 27
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> I2-A6

<400> 27
gcccttactc cactactttt tttttttttt ttcaccatcc actc 44

<210> 28
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> PM-I1 and I1-HP9 (A6-9)

(for single nucleotide mismatch detection)

<400> 28
gaggagatgt tttttttttt ttttagtagt ggtttcaatt ccaacgaaac c 51

<210> 29
 <211> 47
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PM-I2 and I2-HP9 (A6-9)

 (for single nucleotide mismatch detection)

 <400> 29
 gcccttactc caccactact tttttttttt tttttgttgg acagccg 47

 <210> 30
 <211> 43
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> miR-21 (HP-I1)

 <400> 30
 tcaacatcag tttttttgtg cagtgttcaa ttccaacgaa cac 43

 <210> 31
 <211> 37
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> miR-21 (I2)

 <400> 31
 gcccttactc ccactgcact ttttttctga taagcta 37

 <210> 32
 <211> 42
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> miR-let-7a (HP-I1)

 <400> 32
 aactatacaa cttttttttt ttttttgtgc ttcaattcca ac 42

 <210> 33
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> miR-let-7a (I2)

 <400> 33
 gcccttactc cgcacttttt tttttttttt tactacctca 40

 <210> 34
 <211> 48
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> miR-9 (HP-I1)

 <400> 34
 tcatacagct attttttttt ttttttgtgc cttcaattc caacaagg 48

 <210> 35
 <211> 44
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> miR-9 (I2)

 <400> 35
 gcccttactc cgggcacttt tttttttttt ttgataacca aaga 44

 <210> 36
 <211> 46
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> miR-29 (HP-I1)

 <400> 36
 cggaacacca tttttttttt tttttgtgcc cttcaattcc aacaag 46

 <210> 37
 <211> 35
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> miR-29 (I2)

 <400> 37
 gcccttactc cgggcacttt tttaaagaaa tcagt 35

<210> 38
 <211> 52
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> SARS-CoV-2 (HP-I1)

 <400> 38
 tgcacccgc attacttttt tttttttttt gtgcccttca attccaacaa gg 52

 <210> 39
 <211> 47
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> SARS-CoV-2 (I2)

 <400> 39
 gcccttactc cgggcacttt tttttttttt ttgtttggtg gaccctc 47

 <210> 40
 <211> 70
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Thrombin (HP-I1)

 <400> 40
 agtccgtggt agggcagggt ggggtgactt tttttttttt ttttgtgcag tgttcaattc 60
 caacgaacac 70

 <210> 41
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Thrombin (I2)

 <400> 41
 gcccttactc ccactgcact tttttttttt ttttggttgg tgtggttgg 49

 <210> 42

<211> 52
<212> DNA
<213> Artificial Sequence

<220>
<223> I1-HP3 (A4-6)

(for protein detection)

<220>
<221> misc_feature
<222> (1)..(1)
<223> SH is tagged to residue 1. The thiolated end "SH-" was later
conjugated to antibody

<400> 42
tttttttttt tttttttttt tttttttttt gtgcccttca attccaacaa gg 52

<210> 43
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> I2-HP3 (A4-6)

(for protein detection)

<220>
<221> misc_feature
<222> (47)..(47)
<223> SH is tagged to residue 47. The thiolated end "SH-" was later
conjugated to antibody

<400> 43
gcccttactc cgggcacttt tttttttttt tttttttttt tttttttt 47

<210> 44
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> I1-HP7 (A5-8)

(for protein detection)

<220>
<221> misc_feature

<222> (1)..(1)
<223> SH is tagged to residue 1. The thiolated end "SH-" was later conjugated to antibody

<400> 44
tttttttttt tttttgtgca gtgttcaatt ccaacgaaca c 41

<210> 45
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> I2-HP7 (A5-8)

(for protein detection)

<220>
<221> misc_feature
<222> (34)..(34)
<223> SH is tagged to residue 34. The thiolated end "SH-" was later conjugated to antibody

<400> 45
gcccttactc ccactgcact tttttttttt tttt 34

<210> 46
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> HP-I1 (7)

<400> 46
cctcatccct actttttttt tttttttgct agacgaattt caattccaac tgaaattcg 59

<210> 47
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> I2 (7)

<400> 47
gcccttactc cattcgtcta gctttttttt tttttttatc catctccac 49

<210> 48

<211> 58
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> HP-I1 (8) and HP-I1 (9)

 <400> 48
 taccttcacc tttttttttt tttttgctag acgaatttca attccaactt gaaattcg 58

 <210> 49
 <211> 51
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> I2 (8)

 <400> 49
 gcccttactc cattcgtcta gcaatttttt tttttttttc accatccact c 51

 <210> 50
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> I2 (9)

 <400> 50
 gcccttactc cattcgtcta gctttttttt tttttttcac catccactc 49

 <210> 51
 <211> 60
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> HP-I1 (10)

 <400> 51
 taccttcacc tttttttttt tttttgctag acgaattttc aattccaact tgaaaattcg 60

 <210> 52
 <211> 50
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> I2 (10)

<400> 52
gcccttactc caattcgtct agcttttttt ttttttttca ccatccactc 50

<210> 53
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> HP-I1 (11)

<400> 53
taccttcacc tttttttttt tttttgctag acgaattttc aattccaact tgaaaattcg 60

<210> 54
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> I2 (11)

<400> 54
gcccttactc caattcgtct agcttttttt ttttttttca ccatccactc 50

<210> 55
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> HP-I1 (12)

<400> 55
taccttcacc tttttttttt tttttgctat tcgaattttc aattccaact tgaaaattcg 60

<210> 56
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> I2 (12)

<400> 56
gcccttactc caattcgaat agcttttttt ttttttttca ccatccactc 50

<210> 57

<211> 41
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> HP-I1 (13)

 <400> 57
 taccttcacc ttttttttac cggattcaat tccaacaatc g 41

 <210> 58
 <211> 35
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> I2 (13)

 <400> 58
 gcccttactc ctcgggtttt tttcaccatc cactc 35

 <210> 59
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Exemplary target sequence for Single Nucleotide Mismatch
 Detection (perfectly matched)

 <400> 59
 cggctgtcca accacatctc ctcc 24

 <210> 60
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Exemplary target sequence for Single Nucleotide Mismatch
 Detection (single mismatched)

 <400> 60
 cggctgtcca accacatctt ctcc 24

 <210> 61
 <211> 22
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> miR-21

 <400> 61
 uagcuuauca gacugauguu ga 22

 <210> 62
 <211> 22
 <212> RNA
 <213> Artificial Sequence

 <220>
 <223> miR-let-7a

 <400> 62
 ugagguagua gguuguauag uu 22

 <210> 63
 <211> 23
 <212> RNA
 <213> Artificial Sequence

 <220>
 <223> miR-9

 <400> 63
 ucuuugguua ucuagcugua uga 23

 <210> 64
 <211> 22
 <212> RNA
 <213> Artificial Sequence

 <220>
 <223> miR-29

 <400> 64
 acugauuucu uuugguguuc ag 22

 <210> 65
 <211> 72
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> SARS-CoV-2 (NC_045512.2)

 <400> 65
 tctggttact gccagttgaa tctgagggtc caccaaactg aatgcggggt gcatttcgct 60

gatttttgggg tc

72

<210> 66
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> HP-I1 (with biotin-tag)

<220>
<221> misc_feature
<222> (1)..(1)
<223> Biotin tag is tagged to residue 1

<400> 66
tttttttttt tttttgtgca gtgttcaatt ccaacgaaca c

41

<210> 67
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> I2 (with biotin-tag)

<220>
<221> misc_feature
<222> (34)..(34)
<223> Biotin tag is tagged to residue 34

<400> 67
gcccttactc ccactgcact tttttttttt tttt

34

<210> 68
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Duplex-cI2

<400> 68
gtgcccggag taagggc

17

<210> 69
<211> 48
<212> DNA

<213> Artificial Sequence

<220>

<223> SM-I1

<400> 69

taccttcacc tttttttttt tttttttgtg cccttaattc caacaagg

48

<210> 70

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Xprobe-F

<220>

<221> misc_feature

<222> (28)..(28)

<223> 3Rox_N is tagged to residue 28

<400> 70

gttaaatcgt ggatagtaga cttcgcac

28

<210> 71

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Xprobe-Q

<220>

<221> misc_feature

<222> (1)..(1)

<223> 5IAbRQ is tagged to residue 1

<400> 71

gtgcgaacag gtacatttgc tcgtcctt

28

<210> 72

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> XF-P

<400> 72

aaggacgagc aaatgtacct ggcccttact cc 32

<210> 73
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> XQ-PC

<400> 73
gttggaattg ggagtaaggg cgtctactat ccacattta ac 42

<210> 74
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> HP1 (AuNP)

<400> 74
gttggaattg ggagtaaggg ctgtgatgcc cttactccc 39

<210> 75
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> HP2 (AuNP)

<400> 75
gcccttactc ccaattccaa cgggagtaag ggcatacaca 39

<210> 76
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> HP1 (DNAzyme)

<400> 76
gttgggaaag ttggaattgg gagtaagggc tgtgatgccc ttactccctg ggtagggcgg 60

<210> 77
<211> 48
<212> DNA

<213> Artificial Sequence

<220>

<223> HP2 (DNAzyme)

<400> 77

gttgggaaag cccttactcc caattccaac gggagtaagg gcatcaca

48