



1<sup>1</sup> i ...t#- ...t! " ...t#Û\$Å %& Í ' ( ) ¢\* +...t#, ' - . / ÛÜÝ<sup>1</sup> f, „ æÃA  
<sup>1</sup> f, „ æÃBOñ%ÓÔ& ¢-201¢¢Ç2...t' 3¢41¢& î " Í  
 2<sup>1</sup> ~ " , i ...t#- 42...t5i " 6...t#Û\$ %i 78& Í  
 ( ) -  
 ...t#Í Û9: ; <¢" =>i ? : â @~ " A~ " , i 42...t#ööBC@=> , 1DEÍ ~ " FGÍ H  
 ÝI - J KO±ŽÅi Û\$LÛ¢&M-Î » âNO&PQ<sup>3</sup> i Í

[ Û i RST& \_ ]

· , - / \* S ¢. , â Èi U· Û BV7 32µJÆ41Cl W¢X, 1,000àg • 20âY¢ZÅ, [ : ¢  
 / Å, 3¢-201¢Æ-801¢& ¢\ ] ^\_` aÍ  
 · ° - " EDTAÆbcdL<sup>2</sup>e†RSÛ ¢û / Û BRS, i 30âYÍ ¢2-81¢ 1,000àg • 15âY¢ZÅ,  
 [ : f, ¢Æ / Å, 3¢-201¢Æ-801¢& ¢\ ] ^\_` aÍ  
 » ¼½° - £fghï » ¼i î ½° i j ' k £f  
 1ØZ' ´ » ¼l ¢B-mPBSÖ0.01mol/L¢ pH=7.0-7.2ØË, è n· Å¢½° øoÑpÍ  
 2Ø/ » ¼qrµl ¢! ½i s 3Bt Åi u vwÅÄäÅ(xyIS007¢@z { | Û• , i } ¾¿<sup>3</sup> ~ •  
 €£fghï äåÄ)ï • , ! M÷ È Ö Š µi » ¼f, ...tØÍ ÖM´ ž ± ^ =1:20-1:50¢%...- 1mLÄÄä  
 åÄËŠs 20-50mg» ¼ - Í Ø  
 3Ø/ < +i ¢• ÄŽI • • ' ' " " , Í  
 4Ø/ i î ýi ½° Å10,000àg • 5âY¢• - - ¢Å, [ : " ¢f, Æ3¢-201¢ & Í  
 ¾¿ ÄÄÄ, ÆÇÈ " • Û - ' 1,000àg • 20âY¢ZÅ, [ : f, ¢Æ / Å, 3¢-201¢Æ-801¢& ¢  
 \ ] ^\_` aÍ  
 ( ) -  
 1<sup>1</sup> OÅÛ- ! i ™ & ¢41¢& µ¢1š ¢-201¢£• I 1DE ¢-801¢£• I 2DE Í  
 2<sup>1</sup> Û > œæ· k· žÝ, f, ; ¢• tæ· Û £¢£¢†¥f, Í  
 3<sup>1</sup> Û ~ " ø@ä! ! §" V7¢£@Šú~ " aÁÍ  
 4<sup>1</sup> ©¢ª ´ f, Ò{ ¢« ¬- ®~ " · , - £P· ° dL - £¢f, Í

[ Luminex200 ä ä ô ]

1. ä ä ž ± - 50uLA
2. Š < gh - ^ á MagPlex;
3. ° ^ á ´ - 50±/² ;
4. MFI<sup>3</sup> - Median.

[ ...tÛi ]

1<sup>1</sup> ~ " ø/ i ...tþÛ- ä! ! §" V7Ö18-251¢Ø¢...i ´ ...t#B<sup>a</sup> µJKÍ £¶~ " ¢' œZ> -  
 @...> i i Û9þ...t¢û / 42i Û9ñ...t" · <sup>3</sup> 9, & Í  
 2<sup>1</sup> ÛÜÝ( ^ 1 Ý)- ° #ÛÜÝŠsÛÜÝþBÄ0.5mL¢ » ý, V7¼3<sup>a</sup> ½10âY¢f J ¾¾¿ ÄÖ\ ] Ä  
 ÄØ¢Çé8L10.0ng/mLÍ Ûi 7DPþÛÜÝi EP ¢° DEP È Šs 300ÄLi ÛÜÝþBÄ¢...Ä %z  
 @Ä^ þBr 10.0ng/mL, 2.5ng/mL, 0.62ng/mL, 0.16ng/mL, 0.04ng/mL, 0.01ng/mL, 0.0ng/mL¢ÛÜÝþB  
 Ä(0ng/mL)ÆÇdLÖ, ÓÍ L&È => ; %¢° @=>' ~ " v i ÛÜÝæÄÍ

item	1	2	3	4	5	6	7	Tube
MUC21	10.0	2.5	0.62	0.16	0.04	0.01	0	ng/mL



6<sup>1</sup> n^ φ° ÓŠf,, æÂBÚdÂÕ¥" øØi Ø100ÃLφ ÛÔÛÚφ371C ÛÔ ÷730aYφ Å  
56ð3L800rpmφ 72-4mmφ89^ á- +Í

7<sup>1</sup> Å^ φ2âY, • Åžφ° Ó" 200ÃLi èëÂèèφ; Å1-2âYφ• ÓÍ ÅžÍ èÕ3@φj  
' f. /5Í

8<sup>1</sup> n^ φ° ÓŠèÂ150ÃLφ 2 2âYφ~ Š< BÆC φ[: Å@DÒÍ  
( ) -

1<sup>1</sup> ...† Üî - Üî<sup>a</sup> @=> ì „ ï Û9φÇÈï : EŠÓÔÅ; ~ φ™ φ" 6™š> „ ?& φOí ~ @  
~ " Í

2<sup>1</sup> Š - => - dË' ~ " <sup>a</sup> @%ï FG φ\] î ï Í Š J( ) E,, HÂH" φ/ ÝŠα ÛÔÑè  
φ- ' EI ñÓÐφ¾¾JÂÔ½Í T ^ @...† Šs<sup>a</sup> φŠ I èË@<sup>a</sup> DÓTY, <sup>a</sup> DÓŠ JKKK-  
' μÕ<sup>a</sup> LMi B10âYOÍ Øφ...j N<sup>a</sup> φ/k £fï O-7æPJ KφE<sup>-</sup> ŠQR• ž + „ ' <sup>3</sup> ï Û  
O%ñp\_ %Í LS „ <sup>3</sup> ï ÛO%φ- @ð3\_ ÓEα => Í

3<sup>1</sup> 7æ- L89 Ý Tφ=>J' / ŠÅ»ÆÛÛï ÛÔ3αO†Í φO\] Åž TφèÔ, ®- . Eα  
~ . - dφUVJWN@ \ ] ÛÔ' α<sup>1</sup> X φfJ@YZ[ \ ] <sup>3</sup> ï 7æJ Kp78Í

4<sup>1</sup> èè- Óâèè^\_p,, φB° @èèI èËφN,, /èèÂFUÊ<sup>1</sup> Í ...j ~ " í ÂèÔ@φ' B` a ~ "  
, ç" αbc=>I èËÍ

5<sup>1</sup> ...j =>VÍ O8 α60%φ- ®~ " ŠO÷ù O8 dÍ

[ => \$' ]

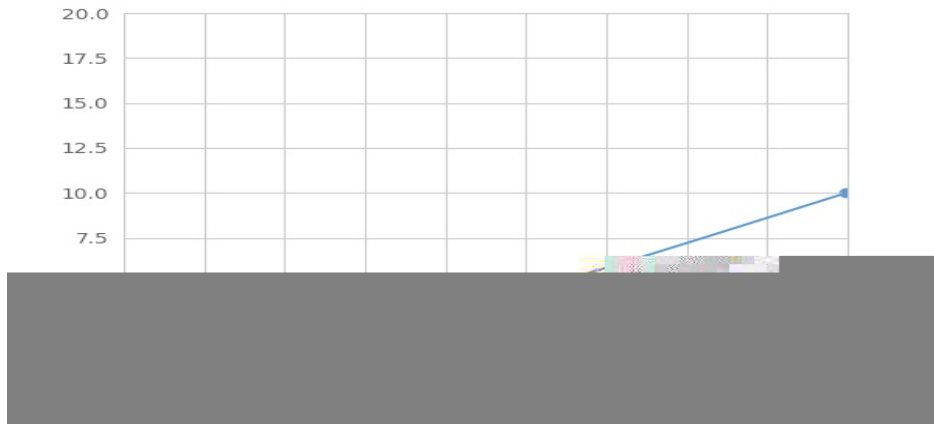
/MUC21<sup>2</sup> ž xα^ %Š< efφi rgÉhžφi Š< ÈàÒŠsÛÛÝÆÛ<sup>-</sup> φÇÈMUC21Tj ÇαgÉh  
ž Åí<sup>2</sup> ž kφX, Šs" • c ï MUC21<sup>2</sup> žφB/ kï " • c <sup>2</sup> ž èí , φŠsPEÛI ï mpcφPE  
xñT, φÕ{ MFI<sup>3</sup> ÕMedian Fluorescence IntensityØi<sup>a</sup> μp ÝËi MUC21é8BbÉÉÍ " Luminexâ  
ãô „ <sup>3</sup> φÖx Ýé8Í

[ Öx ]

oÛÛÝñ ~ MFI<sup>3</sup> =nÖ, ÓMFI<sup>3</sup> , dÄÕpqÄØφ...ð3\_ Óφr ®ZÇd! <sup>3</sup> ÖxÍ OÛÛÝi é8  
LstÛÕÆ÷ÒtÛØφMFI<sup>3</sup> LutÛÕÆ÷ÒtÛØφv> ÛÛ Öÿ j èc®zwxj èÖxi R2<sup>3</sup>  
A<sup>3</sup> φOR2<sup>3</sup> yz{ α1LýØÍ - ®~ " | } i d ~ , Eαâãφ...curve expert 1.30φÕ{ ÝMFI<sup>3</sup> φ  
ÛÛ • > É®i é8φ€OPBÅÒAÆ" ÛÛ•ï é8TMFI<sup>3</sup> Öx> ÛÛ ï wxj ècφ/ Ýi  
MFI<sup>3</sup> • sj ècφÖx> Ýé8φ€OPBÅÒφ[ L Ýi =Ûé8Í

[ , hÒ{ ]

LSfαÖxφ- é8LÍ , ' ~ MFI<sup>3</sup> L• , ' φ« -vÄJ5R" ÛÛÝi MFI<sup>3</sup> dLutÛÕX,, ØφÛÛ  
Ýi é8LstÛÕY,, ØÍ fJLS...> j ï Æ...%φÄËù•ï P\$†Ø{ ^ ÷ Ò<sup>3</sup> Í - ®~ " ÷ Ò<sup>3</sup> ö  
†ÛÛ ÄÍ α=>- d9, ï £fÕ...- dü<sup>1</sup> Å^ %<sup>1</sup> èÔ^ %p789, ØφÛÛ ï MFI<sup>3</sup> k  
ãŠÍ ù•ï ÛÛ æ• < ýφ=>ùì „ Ö{ í äï =>ö†ÛÛ Í



(€• , 21)f„ ...† ‡ ŪÛ

[ f„ ]

0.01-10ng/mL.

[ Ÿ f„ ]

† ³ L20DÖ, ŸÖ[ ŪÛŸƆBÂØ, ³ i d! ³ Š4ÅŪÛâ ÷ ®i é 8Í

[ Š% ]

~ ...† ‡" ² f„ MUC21Ɔ Ž f„ TÇÈÉ•• MŽšO•• ^®Í

² + ^ %ñ ~ A' i Œi ƆÉ: ¶Fr ÉÊÆÉ•• M•• ^®f„ Ɔ•† ~ ...† ‡ : ¶T Ž f„ i ÇÈ• M •• ^®Í

[ B™ 8 ]

B™ 8" Ÿ„ ³ ³ i , Š" ÒCve%Í CVÖ%Ø = SD/meanà 100

" Î â-Z f" @...† ‡ ÷ ¹ È¹ ³ ³ ³ ~ £ ² ³ ´ f„ Ɔ° • ~ j - „ ³ 20

@Ɔâ ÒÖx £ f é 8 ~ i d! ³ ñSD³ Í

" Kâ-• Z3DEf" @i ...† ‡ â Ò ÷ ¹ È¹ ³ ³ ³ ~ £ ² ³ ´ „ ³ Ɔ° D ~ ~ " fª ...† ‡ p\_„

³ 8@Ɔâ ÒÖx £ f é 8 ~ i d! ³ ñSD³ Í

" Î â- CV<10%

" Kâ- CV<12%

[ Q³ % ]

Ž„ ³ Ɔ...† ‡ B ~ Î - " - ®78& Ɔ~ % + 6/µ ² 5Í

L™ µŸè• c ÷ ...† ‡ š > ø, f„ ³ i • ž Ɔ => V i œ • 9, ì - ´ &:ª Ɔ ž ÇP => V Í 78¹ O

8ñ7æ9, Í Ç@ fª => ŸA£ ² - d:™ -LáâÍ

[ => i ë ]

1¹ => ø ŪÛŸ¹ ...† ñ ~ Ū i A

2¹ Š ŌŪÛŸÆ ~ Ø100ÅLƆ Š ^ á Ɔ371 C ŪŌ ÷ Ɔæ1µJ A

3¹ ^ È¹ Ɔ Š f„ æÅA100ÅLƆ371 C ŪŌ ÷ Ɔæ1µJ A

4<sup>1</sup> ^ êÔ3@A  
 5<sup>1</sup> Šf„ æÃB100ÃLÇ 371C ÀÇæ30âYA  
 6<sup>1</sup> ^ êÔ3@A  
 7<sup>1</sup> ŠèÃ150ÃLÇ 2 2âY, DÒÍ

[ ™Š ]

1<sup>1</sup> æœ 9, ñÉ ^% dæÉŋ÷•x¥ù•ï \$| ÉæUfï §³TâãÇ⁻ HÝ: ŋ B<sup>a</sup>  
 ³ï M´ ^%¨ ©Í  
 2<sup>1</sup> Ý<sup>a</sup> ï => | T...tï %<sup>1</sup> => üï ÉÊ- dOñ=>æ•™qÉÊÇ' — Üî Ó ï Û⁻ î • Í  
 3<sup>1</sup> Éf" @ï f<sup>a</sup> HÝ: ŋk « âÒÇ...-f„ Æ¹ - - 8Ç' z{ ...t‡Í™Š> Éæ=>- dÇ®⁻ °  
 Ž«™Š> æd< ýÍ  
 4<sup>1</sup> ⁻ ...t‡Ø±...t Ø±~ " ÇÉŋÓ" Ç² i à¥ï HÝÍ Û YZ[ \⁻ ...t‡ï =>™Š³k< +ÿ  
 ï f„ | Í  
 5<sup>1</sup> B ñ7æI ëË\] /...t´ µBŋ· ÉÍ ...t#» » , O89 TþŠ" •îï Ç•L•, Á  
 ï¹ / „³ÉÜOÍ  
 6<sup>1</sup> ¹ °ï » ÓÓÓË: ŋk « •MÇtLb\_æ¼ÇÉk÷=> | àrUV•žÍ ÛÖB~ "  
 JE u½¾Z> Ç' āùøZ> Í  
 7<sup>1</sup> æ-düÉ` a¹ - d¿áÆôá• " DÒôëÀ N : ŋ ôá | ï H" Í =>ø' Á¾ÃD™Š  
 > ùÃ...ô÷Í  
 8<sup>1</sup> B ⁻ i î Oñ- dï ° DI ëËï , N: ŋ Éfï => | Ç OLSù => | ï : p\_%Ç=  
 >ï °<sup>a</sup> . - dNì „ YZMi Í  
 9<sup>1</sup> ...t‡B> Äø! ŽI YZMfÇÃ æ° Æ9, ño=>V9, âŠÇ: ŋkàr => | T> Ä | É<sup>a</sup>  
 ÆÉf" @...t‡" KâÇ<sup>a</sup> ï ! Í  
 10<sup>1</sup> ⁻ ...t‡ TÇ² ÄËfg...t‡ÆÉfj ' f„ f<sup>a</sup> | ï •ï HÝü÷^ Ç OEÉnf„ | É<sup>a</sup> ï  
 ! Í  
 11<sup>1</sup> " æi î ...t‡Ë²žï ] Ê\$Ë\_Lp»•, ÇÃ æi p»•, •Zi ì µ¹ eÍ " Í¹ ï j c  
 o ÉfÇ O«-Ž' &Ë´ ...t‡: " æÇ² ööp»•, ï f„ ÇË\_«-fÉöö~ " ...t‡f„ p  
 »•, Í  
 12<sup>1</sup> ' -ï ÝË „ •ï é8ÇÆüðÖ-=>O³ Ýf„ é8Í Ð ï ' ' : O89 ⁻ É f•ì´ •  
 > ...t‡f„ Í  
 13<sup>1</sup> ´ ...t‡: ŋÉ' " æ<sup>a</sup> =>⁻ ø %œO³ï Ñ=> Ýï f„ Ç%...Ç©• Òn=> Í  
 14<sup>1</sup> ⁻ - d™Šf ' " æ48T...t‡Í  
 15<sup>1</sup> ´ ...t‡æ• | ~ " Ç.../Ç" æ¥| §¨ ÆUVÇ² " ÓÇ« öö/É÷•tH" ï ÔÖùúÇÖÉx  
 ØUV' ÛúUÍ

[ ÔÖÁÚ ]

ÔÖ	: ŋ\$•	ÁÛj Û
ÛÛ â	ÛÛÝÛî ÉbO	ÉæbOï ÛÛÝÝ8Pß
	ZñëëÉÓâ	Óâï Zñëë
	ÃÉBO	f•þÿb Ã÷

