

€ • , f „ ... † f „ (TPPP) ≠ ^ %oŠ<
 (Œ• • Ž Lumi nex• • ' ' " ")
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 > — œ• Ž

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 1 TPPPI . Č

[%oŠ< Č D]

%oŠÑØ	Ó.	%oŠÑØ	Ó.
96ÔÓÖ× „ ØÙ	1	96ÔÓÚÙ	4
ÜÝP	2	ÜÝPßà Á	1á 20mL
Œâ	1	ã ä á æ Á	1á 20mL
‡ ^ ç ÁA	1á 120eL	‡ ^ ßà ÁA	1á 12mL
‡ ^ ç ÁBÖPE-SAÙ	1á 120eL	‡ ^ ßà ÁB	1á 12mL
é Á	1á 10mL	ê ë ï ÁÖ30á Ù	1á 20mL
> — œ• Ž	1		

[í î ï Õñï ò%oŠ]

- 1° Lumi nex MAGPI Xó¥ Lumi nex 100ô¥ Lumi nex
- 200ô¥ ÇBi o-Radó, Bi o-Pl exoã ä õ Öö ÷ õø - ùúù- û, üýþî † ý ÝÙ
- 2° • Ç • . Áøò
- 3° ßà PØEP, .
- 4° Ç '
- 5° Œ
- 6° ë Á Õ ð Ø
- 7° 0.01mol /L ÖÇ1á Ù å æ (PBS) ¥ pH=7.0-7.2
- 8° Ø
- 9° ÜÖ Ø

[%oŠ< Õ ò °]

1° Ø‰Š<™ %‰Š! " %‰Š#Ü\$Æ %& Ī' () ¥* + %‰Š<, ' - . / ÜÝPº ð^ çÃA
 ° ð^ çÃBOð96ÔÔ& §-201C¥È 2‰Š' 3S41C& ī - ī
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[Ü² ØRST&]

¼½¾»™ | UVWØ½½XÍ ¾» ØY" Z | U
 1Ù[• · ¼½\¥B-] PBSØ0.01mol/L¥ pH=7.0-7.2Ùí ¹ ë ^ , Ä¥¾» Ù_Ø` ī
 2Ù/ ¼½abc\¥! ¾Ø d 3BeÆØf ghÁÂåæÄ(i j IS007¥±kI mÜf, ðnçÀ¶op
 q | UVWØåæÄ)Ør s! Møl Ø• cØ½t uvwÙí ØM. i xy=1:20-1:50¥z v™1mLÁÂå
 æÄl { d20-50mg½ ² ī Ù
 3Ù/ | +Ø} ~Ä• | €• , f, ... ¹ ī
 4Ù/ XÍ þØ¾» Ä10,000ág " 5ä†¥‡ ^ %¥Æ¹ Š: - S‡ ^ C3S-201C< & ī
 ðÀÁÂÃ™Bää‰>Œù¥ðÀí • - O< Y" , f™
 1ÙŽ• ðÀ±• -] PBS' ' ¹ ë¥' , - " f, " • ¥§1,000ág " 5ä† , * SÍ Ø} - ðÀ: -
 | " ~™* SÙí
 2Ù/ * S+ØðÀ-] PBSë3@A
 3Ù/ ðÀ- ghÁÂåæÄ` } , §8L107DðÀ/> œ¥v•í u¥ðÀ: Ož ¥€• , f, çÃ... ¹ ī
 4Ù/ Ü² §2-81C 1,500ág " 10ä†¥‡ ^ %¥Æ¹ Š: - S‡ ^ C3S-201C< & ī
 ðÀÄÅÆ¹ ÇÈÉ—~ Ü²™ 1,000ág " 20ä†¥[Æ¹ Š: ‡ ^ ¥Ç/Æ¹ 3S-201CÇ-801C& ¥
 | ¢£¤¥| ī
 ()™
 1° OÆÜ² ! í Š & ¥41C& c§1S¥-201C| €I 1DE¥-801C| €I 2DE†
 2° Ü² " ©ç, Zª «-, ð^ - • ¥• wç, Ü² | ®ž ¥w- ð^ ī
 3° Ü² > - Ù±å° ! ±, ² 7¥| ±{ Ú> œ| Áí
 4° ³ § ' · ð^ ØI ¥µ¶· , > - , ¹ ¹ | P, »° L ² ž ¥‡ ^ ī

[Luminex200 å ä ö]

1. å ä i x™50uLA
2. • Ž VV™Œå MagPI ex;
3. » œå·™50½/½;
4. MFI¾™Medi an.

[%‰ŠÝí]

1° > - Ù/ Ø‰Šý Ü² å° ! ±, ² 7Ø18-251CÙ¥v• • %‰Š< B- ðJKÍ | Á> - ¥' ¥[" ²
 @‰> í Ò Ü9ý‰Š¥ü/ 42Ø Ü9ð‰Š" Á¶9Â& ī
 2° ÜÝP(¥ÃP)™Ä#ÜÝP{ dÜÝPßàÃ0.5mL¥Ãþ, ² 7Æ3' Ç10ä†¥UJ' ' ÈÉÖ| ¢È
 ÈÙ¥Èê8L20.0ng/mL Ýí 7Dßà ÜÝPðEP, ¥ÄDEP, l { d300l LðÜÝPßàÃ¥ví %k
 @í yßà b20.0ng/mL, 5.0ng/mL, 1.25ng/mL, 0.31ng/mL, 0.08ng/mL, 0.02ng/mL, 0.0ng/mL ¥ÜÝPßà
 Ã(0ng/mL)~™o L x, ØÍ L&Í = > - • • ¥Ä@=>' > - gðÜÝPçÃí

item	1	2	3	4	5	6	7	Tube
TPPP	20.0	5.0	1.25	0.31	0.08	0.02	0	ng/mL

3° $\frac{\text{f}^+ \text{çAA}}{\text{f}^+ \text{çAB}}$ Detection A / Detection B - $\frac{\text{ù}' - \text{DNO}}{\text{çOO}}$ " , $\frac{\text{f}^+ \text{çAB}}{\text{f}^+ \text{çAA}}$ 1:100Bà (vTM10l L $\frac{\text{çAA}}{\text{çAB}}$ /990l L $\frac{\text{çAB}}{\text{çAA}}$) $\frac{\text{çAA}}{\text{çAB}} \frac{\text{çAB}}{\text{çAA}}$ $\frac{\text{çAB}}{\text{çAA}}$ $\frac{\text{çAA}}{\text{çAB}}$ 2mL

4° éèì ÄTM580mL Ç { d20mLéì ÄÖ30á ÙBà „ 600mL, à° Äé8î ()TM

1° ÜÝÞðBà | Ä~TMBÖl ž YYî

2° ÜÝÞ' §'' - ù15á tî ÞXî • ÜÝÞáÀ> - - @î

3° ÜÝÞ° $\frac{\text{çAA}}{\text{çAB}}$ ° $\frac{\text{çAB}}{\text{çAA}}$ ° Ä° $\frac{\text{çAA}}{\text{çAB}}$ ° Ä' > - È ± ÓBà ÄÞXÝBà Ä| ÄÚ-î - Äâ' ' ää
Ùä Ú $\frac{3}{4}$ ¥| ÇÈ ÈÎ L&I =>- • ØÝO• ' > - • . , ¥ü YY.. Äøî ' kI i Ø· åOP
XÝ-- | u> - • . ÞXØY" Öv [$\frac{\text{çAA}}{\text{çAB}}$ ¥- @| uc§10l LÙ¥O| Çæbè8çèî

4° ' é` ø> - è• Bà I ØÜÝÞ° $\frac{\text{çAA}}{\text{çAB}}$ ° Äÿ $\frac{\text{çAA}}{\text{çAB}}$ ° Äî

5° èì ÄÖ30xÙl v - èä'' ¥' _ 7i , 2 7¥' ' Ú $\frac{3}{4}$ ¥, + - èFí çÄî ž YYÞXî

6° %S¹ î í ã%SL Ä¥ðñí Þ3bà° Ä, > - ¥BP3I ðl : Ä• Lóô M· èç Môö¥
Oð=>l - ÷øùô8è¥æb=>- • | YYØü„ Fí úçî ' > - ' Þ3Í

[Ü², f]

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: À> - . ¥- Ù Õ 2 î

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àî Óî v• Þl ^ ~ è8i Çi ¥' þ 2 ý• ØBàÇê î 2 ßàí - PBSî

3° $\frac{\text{çAA}}{\text{çAB}}$ 2 | Í Bœ• ž 2 Øl ¥Ö÷ž Y- = >> ï È . • ¥ü() 2 î

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‡^ | " ð&' î

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¥¹ | Ø‡^ " î

7° ö÷> - gh 2 ¥& JK I O: ÅZ • f „ 1 ÅÇ2 • 1 = > - • èî

[3° 45]

1° / = > ÕðÄÖl { d200ul àäå åæÄ - O- 6¥ 7, B ÜÖ øÆ² 78 10ä t ¥Œ, ÑÄÖl
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2° { TMåØñ ÜÝÖ° ^ ÞÖ° x „ Ôî n ÜÝÖÛÖ¥k @ { d100l L| Uë8ØÜÝÞÖ9%ŠYi 2
Ùî x „ Ô{ 100l LÜÝÞBà ÄÖ9%ŠYi ñ: 4- , - , Ù¥2Ô{ ^ ÞÖÇBà, ð ÞÙ100l
L¥ÄÔ{ 10ul Æå ¥ ÜÖ{ ÆÜÛ¥371C ÜÖ ø7i 1.5CJ ¥ É; <ñ3L 800rpm¥ = 2-4mm
¥> ? Æå ^ 1 î

3° ÆŒ ¥2ä t, ‡ Äj ¥Œ &@ð# \$< ÑÄ¥ | - èì î

4° ÄÖ{ ‡^ çAA à° Ä100l LÖ" - ùÞXÙ¥ ÜÖÜÛ¥371C ÜÖ ø7i 1CJ ¥ É; <ñ3
L 800rpm¥ = 2-4mm¥ > ? Æå ^ 1 î

- 5° ΔE $\approx 2\text{nm}$, $\lambda_{\text{exc}} \approx 405\text{nm}$ $\lambda_{\text{em}} \approx 420\text{nm}$ $\text{A}_{\text{ex}}/\text{A}_{\text{em}} \approx 1.2$ $\text{FRET} \approx 30\%$
- 6° $\Delta E \approx 2\text{nm}$, $\lambda_{\text{exc}} = 360\text{nm}$, $\lambda_{\text{em}} = 380\text{nm}$ $\text{A}_{\text{ex}}/\text{A}_{\text{em}} \approx 1.1$
- 7° $\Delta E \approx 2\text{nm}$, $\lambda_{\text{exc}} = 360\text{nm}$, $\lambda_{\text{em}} = 380\text{nm}$ $\text{A}_{\text{ex}}/\text{A}_{\text{em}} \approx 1.1$
- 8° $\Delta E \approx 2\text{nm}$, $\lambda_{\text{exc}} = 360\text{nm}$, $\lambda_{\text{em}} = 380\text{nm}$ $\text{A}_{\text{ex}}/\text{A}_{\text{em}} \approx 1.1$
- 1° $\text{MFI} = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$
- 2° $\text{MFI} = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$
- 3° $\text{MFI} = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$
- 4° $\text{MFI} = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$
- 5° $\text{MFI} = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$

[f]

$f = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$

$f = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$

$f = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$

[Y]

$Y = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$

$Y = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$

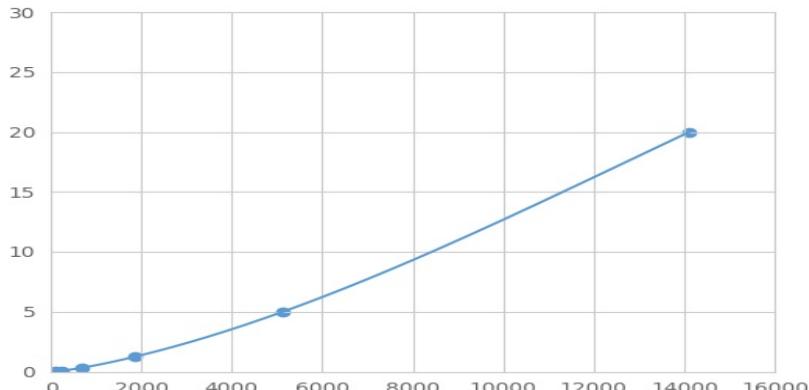
$Y = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$

[W_O]

$W_O = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$

$W_O = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$

$W_O = \frac{\int_{360\text{nm}}^{380\text{nm}} I(\lambda) d\lambda}{\int_{360\text{nm}}^{380\text{nm}} I_0(\lambda) d\lambda}$



(€• , f „ ...† f „)‡ ^ %oŠ< ÜÝ

[‡ ^]

0.02-20ng/mL.

[¬ ‡ ^ •]

w¾L 20D× „ PÖŠÜÝPßàÄÙ^ ¶ði ! ¾{ : Ķ ÜÝè þ±ðê8î

[Ž•]

2 %oŠ< - Š‡ ^ TPPP¥• ‡ ^ TÈÉÊ' ~ M' • V" " E±†
 Š• +Œ• ð 2 G- ð• X¥| : ÅFb ÈÉÇÊ' ~ M" " E±‡ ^ ¥• w² %oŠ< : ÅT • ‡
 ^ ðÈÉ~ M " " E±†

[åš8]

åš8- P^ ¶ ¾ð2ž—ÓCVj %î CVÖ%Ù = SD/meaná 100
 ~ Ķ è™[U~ @%oŠ< þ ° l ° ¾¶ ¾ 2 ž Ÿ¶· ‡ ^ ¥Ä™ 2 oš ^ ¶ 20
 @¥ä ØÜÝ| Uê8 2 ði ! ¾ðSD¾†
 ~ Kè™p [3D| U~ @ð%oŠ< åØþ ° l ° ¾¶ ¾ 2 ž Ÿ¶· ^ ¶ ¥ÄD 2 > - U- %oŠ< ` ø ^
 ¶ 8@¥ä ØÜÝ| Uê8 2 ði ! ¾ðSD¾†
 ~ Ķ è™ CV<10%
 ~ Kè™ CV<12%

[Ø¶•]

• ^ ¶ ¥%oŠ< B ° Ķ > " . , 78& ¥œ• 1 < / c § 5%î
 L • c œ i • ! þ%oŠ< ž Ÿù, ‡ ^ ¾ðª « ¥=> 2 ð | 9Åí - - &@- ¥¢ÈP= > 2 Ķ 78° 6
 8ð7i 9Åí È@ U- = > £Gž Ÿ3° : • øšLçè†

[=>¥ð]

1° => ÙÜÝPº %oŠð 2 Ÿi A
 2° { ÖÜÝPÇ 2 Ü100l L¥{ œå ¥371C ÜÖ Ø| i 1.5CJA
 3° œ ÑÅ¥{ ‡ ^ ç ÅA100l L¥371C ÜÖ Ø| i 1CJA

4° Ⓛ Ⓜ Ⓝ@A

5° { Ⓜ ^ Ⓝ ĀB100l LY371C É | i 30ā t A

6° Ⓛ Ⓝ@A

7° { éĀ150l LY 8 2ā t , I OÍ

[æ•]

1° Ⓛ Ⓜ 9ĀòS Ⓛ• i " | Āþ i ©ú ð * a ž Yí k ð « ¶ Tāä ¥² Hþ: Ā B- ¶ ð M· Ⓛ• - - ī

2° - ® ð = > - • T‰ Š ð • ° = > ð È È 3° Oð = > i š a È È ¥' > Yí Ù ð Ü 2 i TM ī

3° | U~ @ð U- Hþ: ĀZ ø - è Ø ¥ v TM ð ^ • ° ° ± 8 ¥' k l % Š < ī œ• ž ž Y = > 3° ¥ 2 3 ' ® œ• ž Y ° • ī

4° 2 % Š < Pμ % Š Pμ > - ¥ | Ā Ú - È ¶ Xæ©ð Hþ ī á ^ _ ` a 2 % Š < ð = > œ• . Z | + - ð ð ^ - • ī

5° B ð 7 i | ð l ; \$ / % Š , 1 B ° » l ī % Š # Å Å ¼ O > ? Y ÿ • - ~ ð ö ¥ • L f , Ā ð Ā / ^ ¾ | Y O ī

6° ½ ¾ ð ð Ö Ö Ö l : ĀZ ø - ~ M ¥ w L g d © Å ¥ | Z þ = > - • æ b Z [a « ī Ü Ö B > - J J f Å Å [" ¥' é u ù [" ī

7° Ⓛ 3° | e f ° 3° Āç Ç ü ç p - I Ó ð ö Ä % N : Ā u ç - • ð H - ī = > ù ' Å ð Å E I œ• ž ü Ç % Š ð ð ī

8° B 2 X ī O ð 3° ð Ä D I ð l ð 2 • N: Ā | U ð = > - • ¥ O L X Ú = > - • ð : ` ø • ¥ = > ð Ä - 4 3 ° N Í u ^ _ R X ī

9° % Š < B " È ù ! • I ^ _ M ð ¥ É § ³ È 9 Ā ð S = > 2 9 Ā è Z ¥ : Ā Z æ b = > - • T " È - • I - Ç | U~ @ % Š < ~ K è È ' ð & ' ī

10° 2 % Š < T È ¶ È l U V % Š < Ç | U Y " ð ^ U - m ð ~ ð H P y þ y ¥ O | ī ^ ð ^ - - I - ð & ' ī

11° - S X ī % Š < l μ i ð C ī * - d L ` ¼ f , ¥ É S ī ` ¼ f , p [ð ī ð ° j Ð - Ñ ° ö • Y h % s | U ¥ O µ ¶ ' " & ī • % Š < : - S È ¶ ü y ` ¼ f , ð ð ^ ¥ - d µ ¶ t | ö ÷ > - % Š < ð ^ ` ¼ f , ī

12° ' - ð P l ^ ~ ð è 8 ¥ Ç n Ü - = > O ¶ P ð ^ è 8 ī ð , f : O > ? 2 l ð ~ ī . € " % Š < ð ^ ī

13° • % Š < : Ā | • - S - = > 2 y • | O ¶ ð O = > P ð ð ^ ¥ z v ¥ ³ • ð ^ = > % ī

14° 2 3 ° œ• U • - S 4 8 T % Š < ī

15° • % Š < Y E ø - ¥ v / È - S " © a « Ç Z [È ¶ - Ö ¥ µ ü y / | þ • w H - ð × Ø ¥ Ù | Ú Ü Z [" Ü Z ī

[x Ø Ä Y]

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	[ð è ī Ù ä	Ù ä ð [ð è ī
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Cloud-Clone Corp.

å Š 8	Œâ ë ï Ùã	" œ• ž u? Ùã 8 ë ï ý A Ě
	Ú¾ Ùã ý [%oŠ	Ùã Ú¾ ý [%oŠ
	~ ☰ • - ° Đøý ÚÚ	> - { øuáâgð ° > - gðĐøý ÚÚ
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² ¾	gOð ² Yh	gO ² ¥ > - gh ² ž Y = >
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	^ ~ MB ² l Í .	> - gh ² ¥ ` ☰ = >