

1' i ...t#- ...t! " ...t#Û\$Å %& Í ' () * +...t#, ' - . / ÜÛÝ¹ f, æÃA
¹ f, æÃBOñ%ÓÔ& x-201CÇÇ2...t' 3x41C& î " Í
2' ~ " , i ...t#- 42...t5i " 6...t#Û\$ %i 78& Í
() -
...t#Í Û9: ; <Ç" =>ì ? : â @~ " A~ " , i 42...t#ööBC@=>, 1DEÎ ~ " FGÍ H
ÝI - J KO±ŽĀÏ Û\$LÛÇ&M-Î » âNO&PQ³ i Í

[Û`i RST& _]

» ¼½º – £UVWî » ¼Xî ½º i Y' Z £U
1Ø[' ´ » ¼\ ÇB–] PBSÕ0.01mol/LÇ pH=7.0-7.2ØË, ê ^· ÆÇ½º ø_Ñ` Í
2Ø/ » ¼abµ\Ç! ½i c 3BdĀi e fgĀĀăăĀ(hi IS007Ç®j kl Û·, i m¾¿³ no
p£UVWî äăĀ)i qr! M÷ËÕŠµi » ¼stuvøÍ ÕM´ žwx=1:20-1:50Çyu– 1mLĀĀă
ăĀËzc20-50mg» ¼ - Í Ø
3Ø/{ +i | } Ā~l · €· , f, , Í
4Ø/Xî ýi ½º Ā10,000àg · 5ă...Çt#^ ÇĀ, %o: " x f, Æ3x-201CŠ& Í
¾¿ ĀĀĀ, ÆÇË" · Û- -' 1,000àg · 20ă...Ç[Ā, %o: f, ÇÆ/Ā, 3x-201CÆ-801C& Ç
< Ç· Ž· · Í
() -
1' OĀÛ- ! i ' & Ç41C& µx1' Ç-201C£· I 1DEÇ-801C£· I 2DEÍ
2' Û- " " æ· Z· – —, f, ~™Ç· væ· Û- £š> æv· f, Í
3' Û- ~ " ø®ăž! Ýf 7Ç£®z ú~ ; · ÁÍ
4' Çx£´ f, Õk Çx¥| \$~ " · , " £P· ° ©L - > æf, Í

[Luminex200 äãô]

- 1. äãžw– 50uLA
- 2. Š< VW– ^ á MagPl ex;
- 3. a ^ á ´ – 50« /–;
- 4. MFI – – Medi an.

[...t Ûî]

1' ~ " ø/ i ...tþÛ- äž! Ýf 7Õ18-251CØÇu™®...t#Bª - JKÎ £º ~ " Ç' æ[" -
@...> i i Û9p...tÇu/42i Û9ñ...t" ±³ 9² & Í
2' ÛÛÝ(·³Ý)– ´ #ÛÛÝzcÛÛÝþBĀ0.5mLÇµý, 7¶3£· 10ă...ÇUJ , , ¹º Õ< Ç»
¼ØÇÇé8L20.0ng/mLÍ Ûi 7DþBÛÛÝi EP Ç´ DEP Ëzc300½Li ÛÛÝþBĀÇu¾ %j
@¿ x þBb20.0ng/mL, 5.0ng/mL, 1.25ng/mL, 0.31ng/mL, 0.08ng/mL, 0.02ng/mL, 0.0ng/mLÇÛÛÝþB
Ā(0ng/mL)ĀĀ©LÖ, ÓÍ L&Ā=>~™ %Ç´ @=>' ~ " f i ÛÛÝæĀÍ

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

3' f, æÃĀñf, æÃB– Detection A ñDetection BB~ " ø' " ĀĀĀŠÆÆÇ · · , ÇO~ ÈÉB
ËÆ#µi Āž ±w+ ÈÍ ¥" øăì Of, þBĀÆB 1:100þB(u– 10½Lf, æÃĀ/990½Lf, þB
ĀĀ)ÇÍ äĀ ½ÇþBøÍ k –_ÐÑýi ´ @=> i iª ´ ÒX(100½L/Ó)Ç=ÓÒXJ ® ÒX0.1-0.
2mLÍ

4¹ éêëÄ–580mL Æ Ž z c 20mLéëÄÖ30à ØPβf 600mLf Ö©Äé8Í

() –

1¹ ÛÜÝî ÞΒΕ° ÄÁΒÖË> œÍ

2¹ ÛÜÝ' α¥" ø15â...Î ÒXÍ ®ÛÜÝÖ° ~ " a @Í

3¹ ÛÜÝ¹ f,, æÄÄÖ©Ä¹ f,, æÄΒÖ©Ä' ~ " É®î ÞΒÄÒXΦÞΒÄΕ° Í " Í " ÄÖ, , xØ
Í âÍ ½Φ< Ε» ¼Í L&Ä=>~™î ÜÖ%ö' ~ " Š´ ΦúÿÜŠ´ Ä+Í ' j k î ï ´ ÜÖÖ
XΦ-´ Εt~" Š´ ÒXî Y' Öu [f,, æÄÄJ Φ^a @Εt µα10½LØΦΟ< ΕÚbé8ÛÛÍ

4¹ ' Ý` Ž~" Þ~ÞΒΙ î ÛÜÝ¹ f,, æÄÄÖ©ÄÞf,, æÄΒÖ©ÄÍ

5¹ éëÄÖ30xØËu ~ Βā" Φ' _7àf 7Φ, , Í ½Φf+~ΒFáæÄâ> œÒXÍ

6¹ ...t † Èāâ...tL ÄΦäâî Ò3bÖ©Ä, ~" ΦΒÒ3I æË: ° • Lçè M´ ÜÆ MéèΦ
Oñ=>Ë " èì í è8ÛΦÚb=>~™ΕÜÖΦî fFáî ÚÍ ' ~" ± Ò3Í

[Ü°•, _]

1¹ ðñÖò...t † òôöΦΕò• ~" ®...t † Úbî ðöëööΦ' ~" ÷~" øÍ âøù+ ðî
: ° ~" ´ Φ-úÍ uî ðÍ

2¹ =>ø®_~,, ðËü,, •é8Í ýé8ΕΒÛÛÞÿî Í JΦ" á Ö³Ç ³=>î – ÝÞ
Βζ ÒÍ u™ ÝËü,, •é8I ÄI Φ' ò ðü' ýî ÞΒÆé Í ÞΒΒì " ÞΒÍ

3¹ f ðÉ Ì Β™Š> ðËΦöö>œ-=>>ÄÇ %öΦú() ú ðÍ

4¹ ~" ÄÄÄXî ï » ¼½° Ä¾ζ ù[Ä: ° Z α • Mi c =>~™ ÚÍ

5¹ L¾ζ ÄÄÄ, Φ•L®V ð³ • Φu-¾ζ 1¾ζ Ò´ 1 R J K Φ Ö: ° Β
f,, Ε" î Í

6¹ •, Ä` »•, Φ ! " ñ#" ` »•, Φ: ° • LT- HÝ ~" î f,, ² žñ\$%² ž Ε&Ö
Φ" Εxf,, " Í

7¹ öö~" fg ðΦ& J K I ' : ° Z••, (ÄÆ) %ö" =>~™ ÚÍ

[* ©+, _]

1¹ / =>Öî ´ ÓÍ z c 200ul â ä ä ä Ä" Ö- - Φ . , Β ÛÖ ÷Ä 7/ 10â...Φî , Ä³ ÓÍ
Äž Φ%ö: " αz * ©Í

2¹ z – âì ðÛÛÓ¹ ü,, ÝÓ¹ Ö, ÓÍ ðÛÛÓ7ÓΦj @z c 100½LEUé8î ÛÜÝÖÖ...t Ûî 2
ØÍ Ö, Óz 100½LÛÜÝÞΒÄÖÖ...t Ûî ©1+–, a ØΦ2Óz ü,, ÝÖÆÞΒ, î ÝØ100½
LΦ´ Óz 10ul ^ áΦ ÛÖz ÄÛÚΦ371C ÛÖ ÷7à1µJ Φ ° 23ð3L 800rpmΦ 42-4mmΦ
56^ á † (Í

3¹ Ä^ Φ2â..., † Äž Φ^ &7î ŠÄ³ ΦΕ" éëÍ

4¹ ´ Óz f,, æÄÄÖ©Ä100½LÖ¥" øØXØΦ ÛÖÛÚΦ371C ÛÖ ÷7à1µJ Φ ° 23ð3
L 800rpmΦ 42-4mmΦ 56^ á † (Í

5¹ Ä^ Φ2â..., † Äž Φ´ Ó" 200½Lî éëÄéëΦ8¼1-2â...Φ† ÓÍ Äž Í ` ŽéÖ3@
Í –, a @éë, Φ [ÄΕ9" 42î éëä ä ÄΦ/ ÛÖ9: Β ; ÄΦ/<úΒÓÍ î Äž á ä ³
Í vI æs: í ° ^ éÖ=>FbÍ

6¹ ^ ^ Φ´ Óz f,, æÄΒÖ©ÄÖ¥" øØXØ100½LΦ ÛÖÛÚΦ371C ÛÖ ÷730â...Φ °
23ð3L 800rpmΦ 42-4mmΦ 56^ á † (Í

7¹ Ä^ Φ2â..., † Äž Φ´ Ó" 200½Lî éëÄéëΦ8¼1-2â...Φ† ÓÍ Äž Í éÖ3@ΦY
' U+, 5Í

8¹ ^ ^ Φ´ Óz èÄ150½LΦ / 2â...Φ~Š< ? | @ Φ%ö: Ä=ÄÒÍ

() -

1¹ ...† Üî - Üî^a @=> ì tî Û9¢ÇÈï : BŠÓÔÅ; Š¢' ¢" 6™š> t?& ¢Oî Š@
~ " í

2¹ z - => * ©Ě' ~ " ^a @%ï CD ¢< Ąééí z J() £t E¼H" ¢/ Ýz ¢ ÜÔĚā
¢- ' £FñÓĚ¢, G° Í ½Í T• ®...† z c^a ¢z I æĚ©^a DÓT—, ^a DÓz J KKH-
' μŌ^a I J X B 10â...OÍ Ø¢u™K£¢/ Z £Uï L→7àMJ K¢B" šNO• - +, ' - ï Ü
O%ñ` Ž%Í LP,, - ï ÜO%¢| §đ3ŽÓ> œ=>Í

3¹ 7à-L56 Ý Q¢=>J' /z ÅμÆÜÚï ÛŌ3¢- ‡Í ¢O< ĄĀž Q¢ēŌ, ®- . > œ
Š+* ©¢RSJ TN®< Ą ŪŌ• ¢³ U ¢UJ ®VWXYZ³ï 7àJ Kp78Í

4¹ ēē-Í āēē[\ ` t ¢B' @ēēI æĚ¢Nt / ēēĀFáĀ³Í u™~ " í ° ēŌ=¢' B] ^ ~ "
, ā" ¢_ ` =>I æĚÍ

5¹ u™=> Í - 8 ¢60%¢| §~ " z - ÷ ù - 8 a í

[=>! , _]

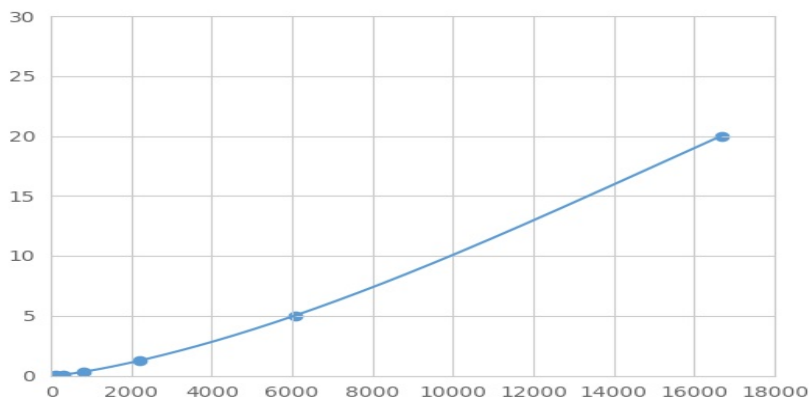
/SYNRg² ž x ¢^ %Š< bc ¢XbdÉež ¢f Š< ĚāI z c ŪŪÝÆŪ⁻ ¢ÇĚSYNRgTgĀ ¢dÉe
ž Āí ² ž~ h¢ , zc" • ï SYNRg² ž ¢B/ ~ hï " • ² ž ēē, ¢z c PEŪi ï j p ¢PE
xkQ, ¢Í k MFI- ŌMedian Fluorescence IntensityØi £μp ÝĚi SYNRgé8?_ĚĚÍ " Luminexā
āō,, ³ ¢ĐŃ Ýé8Í

[ĐŃ]

I ŪŪÝñ ~ MFI- : ^Ō, ŌMFI- , ©¾Ōmn¾Ø¢uđ3ŽÓ¢o®[Ça! - ĐŃÍ ŌŪŪÝi é8
LpqŪŌÆðŌqŪØ¢MFI- Lr q ŪŌÆðŌqŪØ¢s" ŪŪpÿŌ— Yæ` ®j t uYæĐŃi R2-
>³ ¢OR2- vwx ¢1LýØÍ | §~ " yz X¢pÿ{ ² > œā ā ¢ucurve expert 1.30¢Í k ÝMFI- ¢
ŪŪpÿ| " É®i é8¢} ŌPβž ŌĀĒ" ŪŪ• ï é8TMFI- ĐŃ" ŪŪpÿi t uYæ` ¢/ Ýi
MFI- ~cYæ` ¢ĐŃ" Ýé8¢ā} ŌPβž Ō¢%L Ýi =Ōé8Í

[• WŌk]

L P € ¢ĐŃ¢- é8LÍ) ' " MFI- L•) ' ¢ ¢ ¢s¾J 5R" ŪŪÝi MFI- ©Lr q ŪŌX• Ø¢ŪŪ
Ýi é8LpqŪŌY• ØÍ UJLP...>~™i Ā, %¢¾Ěù• ï P! fŌk" [ðŌ- Í | §~ " ðŌ- ō
, ŪŪpÿ¾Í ¢=>* ©9² ï £UŌu* ©÷¹ Ā...†¹ ēŌ...†p789² Ø¢ŪŪpÿi MFI- Z
Ū†Í ù• ï ŪŪpÿœ• ^ Ø¢=>÷ ï t ĩ k ĩ P ĩ =>ō,, ŪŪpÿÍ



(Synergi n€ • ,)f,, ...† ‡ ŪŪpÿ

[f_n]

0.02-20ng/mL.

[— f_n %]

v - L20DÖ, ÝÕ%ÛÜÝÞBÂØ, ³ i a! - z 1¿ ÛÜÜ ò®i é8Í

[‡ %]

~ ...† ‡" α f_n SYNrgϕ ~ f_n TÇÈÉŠ• M< š NÆ• • ®Í

α Ž + ...† ñ ~ > • i % Xϕ E: ° F b ÉÊÆÉŠ• MÆ• • ® f_n ϕ • v ~ ...† ‡ : ° T ~ f_n i ÇÈ• M Æ• • ®Í

[Û' 8]

Û' 8" Ý, ³ - i) ‡ • ÒCVb%Í CVÕ%Ø = SD/meanà 100

' Î Û - [U' @...† ‡ ò ¹ È¹ - ³ - ~ > æ³ ' f_n ϕ ' ' ~ g" , ³ 20

@ϕâì ÐÑÉUé8 ~ i a! - ñSD- Í

' KÛ - o [3DEU' @i ...† ‡ âì ò ¹ È¹ - ³ - ~ > æ³ ' , ³ ϕ ' D ~ ~ " U^a ...† ‡ ` Ž ,

³ 8@ϕâì ÐÑÉUé8 ~ i a! - ñSD- Í

' Î Û - CV<10%

' KÛ - CV<12%

[Q³ %]

~ , ³ ϕ ...† ‡ B - Î " " | § 78& ϕ • % (3 / μ α 5%Í

L - μ ÿ ä • ò ...† ‡ ~ ø , f_n - i • - ϕ => i ™š 9² i - ' & 7^a ϕ > ÇP => Î 78¹ -

8ñ 7à 9² Í Ç@ U^a => æ > > æ* ©: - • - LÛÜÍ

[=> ž æ]

1¹ => ø ÛÜÝ¹ ...† ñ ~ Ûi A

2¹ z ÕÛÜÝÆ ~ Ø100½Lϕ z ^ á ϕ 371 C ÛÔ ÷ ÿ à 1μJ A

3¹ ^ Ä³ ϕ z f_n æÃA100½Lϕ 371 C ÛÔ ÷ ÿ à 1μJ A

4¹ ^ è Ò3@A

5¹ z f_n æÃB100½Lϕ 371 C ° ÿ à 30â ...A

6¹ ^ è Ò3@A

7¹ z èÃ150½Lϕ / 2â ..., AÒÍ

[™š]

1¹ α" 9² ñ ...† a_j E° ò • hϕ ù • i ! E > æ á c i α³ T â ã ϕ - HÝ: ° B^a
³ i M' ...† ‡ † Í

2¹ —§ i => ~ ™T ...† i %¹ => ÷ i ÉÊ* ©Oñ => ™š' aÉÊϕ' " Ûi Í ùi Û- i ' Í

3¹ E U' @i U^a HÝ: ° Z • " Ûi ϕ u - f_n %¹ ©^a 8ϕ' j k ...† ‡ Í ™š > > æ => * ©ϕ « ~ -
Ž « ™š > æ © ^ ø Í

- 4¹ ~ ...†‡Ò@...† Ò@~ " ÇÉ° Î " Ç~ XÚÇİ HÝÍ Õ VWXY~ ...†‡İ =>™Š° Z{ +—
İ f„ ~™Í
- 5¹ B ñ7àl æĒ< Æ/ ...†±² B³ ´ ĒÍ ...†#µ µµ056 QpŠ" • éêÇ• L• , Á
İ³ / „ - ÉÜOÍ
- 6¹ ¶ · İ Ÿ ÔÔÓĒ: ° Z • " • MÇvL_\" ¹ ÇÉZò=>~™ÚbRS• -Í ŪÓB~ "
JB e° » [" Ç' Ýùø[" Í
- 7¹ ¨* @÷É] ^¹ * @¼ŪÆİ Ūo" AÒôæ½ N : ° İ Ū~™İ H" Í =>ø' ¾¾¾ A™Š
> ûĂ...ô÷Í
- 8¹ B ~ Xî Oñ* @İ ´ DI æĒİ) N: ° ÉUİ =>~™Ç OLPù =>~™İ : ` Ž%Ç=
>İ ´ª +* @Nì tVWJ XÍ
- 9¹ ...†‡B" Áø! ~l VWMfÇĀ ¨° Ā9² ñl => 9² Ū‡Ç: ° ZÚb=>~™T" Á~™Éª
ÆEU' @...†‡' KŪĂÉİ Í
- 10¹ ~ ...†‡ TÇ~ ÁĂUV...†‡ÆEUŸ' f„ Uª l İ • İ HÝüòxÇ OEÆ^f„ ~™Éª İ
Í
- 11¹ " ¨Xİ ...†‡Ē² žİ ÇÇ! È\L` »• , ÇĀ ¨İ ` »• , o[İ É~¹ bĒ• Ē¹ Ç Y`
l ÉUÇ O¨¥<' &Ā@...†‡: " ¨Ç~ ðñ` »• , İ f„ ÇÈ\¨¥sÉöö~ " ...†‡f„ `
»• , Í
- 12¹ ' -l ÝĒü„ • İ é8ÇÆ÷ðÐ¬=>O³ Ýf„ é8Í l İ • , : 056 ~ Ēüf• l ´ •
" ...†‡f„ Í
- 13¹ @...†‡: ° É' " ¨ª =>~ ó %ÉO³ İ Î => Ýİ f„ ÇyuÇÇ• İ ^=> Í
- 14¹ ~ * @™ŠU ' " ¨48T...†‡Í
- 15¹ @...†‡æ• j ~ " Çu/Ç" ¨¥| §¨ÆRSÇ~ " ĐÇ ¨ðñ/ Éò• vH" İ ÑÒòòÇÓÉÒ
ÖRS' ÖöRÍ

[ÑÒÁx]

ÑÒ	: ° ! •	ÁØYŪ
ŪŪpÿŪ	ŪŪÝŪİ É_0	> æ_0İ ŪŪÝŪ8Pß
	[ñêĒÉÍ â	Í âİ [ñêĒ
	ĀÉŪ0	f pÿ_ Ā÷
Ū' 8	^ áêĒÉÍ â	"™Š> t?Í â/ êĒp8¼
	Î ½ÉÍ âp [...†Éü	Í âÎ ½p [...†
	` ŽŪ" ¹İ ÷pŪŪ	~ " z ÷tŪÝfİ ¹~ "
	z ÉŪ0	f pÿ_ Ā÷

MFI -	´ Ózï ...t´ ÉÜO	ÿ_ Å÷ΦÜOzc...t
	7àJKÉ_O	&ÁÍ úï 7àJK
	7à78É_O	...t taÿf 7ú&ÅÜOï 7 à78
	PEÛi • ¼	ÜÝ...t
	PEÛi • ÞΒζ ÒÉò	" 6™Š> => * ©
	• " AÒJ KAÒ	B™Š> Šï AÒJ KÎ AÒ
- -	É_Oï - Y`	_O - Φ~ " fg - > œ =>
	É_Oï - * Sp• , Y'	R[_Oï - * Sp• , Y'
	ü„ • MB - ÈÌ´	~ " fg - Φ` Ž=>