

Human fibrotic diseases are a significant health problem worldwide due to the large number of people affected and the incomplete knowledge of the fibrotic process's pathogenesis.

Fibrosis is characterized by overgrowth and scarring of various tissues and is attributed to excessive deposition of extracellular matrix components, including collagen. Fibrosis is the end result of chronic reactions inflammatory induced by a variety of stimuli, such as autoimmune reactions and/or tissue damage.

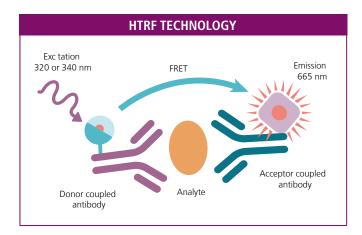
Fibrotic diseases such as idiopathic pulmonary fibrosis and cirrhosis of the liver show that the mechanisms that direct fibrogenesis are independent of those that regulate inflammation.

# ALPHA TECHNOLOGY Exc tation 680 nm Analyte Biotinylated Anti-analyte Streptavidin-coated Alpha Donor Bead Anti-Analyte Conjugated AlphaLISA Acceptor Bead

**Alpha** is a versatile, bead-based platform that enables you to assay the most complex samples in one well and with no wash steps.

# Advance your research on Fibrosis and benefit from PerkinElmer's broad offering of reagent technologies:

- Products covering all significant contributors to a fibrotic disorder involved in Fibroblasts & ECM management, TGF-B1 signaling and Immune cells.
- A biochemical assay portfolio including STING, and a sizeable cellular assay portfolio including cytokines, biomarkers, and phosphoproteins.
- Easy-to-use Alpha, HTRF and LANCE Ultra assay technologies enable the cell-based detection of cytokines, biomarkers, and cell signaling proteins, providing fast and accurate results.



**HTRF** is a fast, sensitive, homogeneous, and ready to use assay platform with no wash steps



#### FIBROSIS AND ECM MANAGEMENT

FIBROBLASTS AND ECM MANAGEMENT				
Product	HTRF	AlphaLISA	LANCE Ultra	
a-SMA	62ASMAPEG <sup>4</sup>	AL3143C <sup>9</sup>		
Hyaluronic acid	63ADK089PEG <sup>3</sup>	AL354C <sup>9</sup>		
MMP1		AL242C <sup>10</sup>		
MMP2 (human)	62MM2PEG <sup>3</sup>	AL269C <sup>10</sup>		
MMP3		AL284C <sup>10</sup>	TRF1284C <sup>8</sup>	
MMP7 (human)		AL378C <sup>9</sup>	TRF1378C <sup>8</sup>	
MMP8 (human)		AL374C <sup>9</sup>	TRF1374C <sup>8</sup>	
MMP9 (human)	62MM9PEG <sup>3</sup>	AL243C <sup>10</sup>		
MMP9 (mouse)		AL519C <sup>10</sup>		
MMP10			TRF3000C <sup>8</sup>	
MMP12		AL375C <sup>9</sup>	TRF1375C <sup>8</sup>	
MMP13 (human)		AL318C <sup>9</sup>		
MMP23		AL3115C9		
PIP Collagen (human)		AL353C <sup>9</sup>	TRF1353C <sup>8</sup>	
PIIINP Collagen	P3NP-ELISA			
Pro-collagen Type 1 (human)	63ADK014PEG <sup>3</sup>			
TIMP1 (human)	64TIMPEG <sup>3</sup>	AL3090C <sup>9</sup>		
TIMP2		AL3091C <sup>9</sup>		
YAP phospho S127	64YAPPEG <sup>2</sup>			
YAP total	64YATPEG <sup>2</sup>			

# TGF-β1 SIGNALING

TGF-β1 SIGNALING				
Product HTRF AlphaLISA				
TGF-β1	62HTGFBPEG <sup>3</sup>	AL3369		

CANONICAL AND NON-CANONICAL SMAD-DEPENDENT SIGNALING					
Product	HTRF	AlphaLISA SureFire® <i>Ultra</i> ™	LANCE Ultra		
SMAD2 phospho S465/467	63ADK102PEG <sup>2</sup>	ALSU-PSM2-A500 <sup>11</sup>	TRF4012C <sup>8</sup>		
SMAD2 total	63ADK103PEG <sup>2</sup>	ALSU-TSM2-A500 <sup>11</sup>			
SMAD3 phospho S423/425	63ADK025PEG <sup>2</sup>	ALSU-PSM3-A500 <sup>11</sup>	TRF4014C <sup>8</sup>		
SMAD3 total	64ND3PEG <sup>2</sup>	ALSU-TSM3-A500 <sup>11</sup>			
SMAD1 phospho S463/465	63ADK062PEG <sup>1</sup>	ALSU-PSM1-A500 <sup>11</sup>	TRF4011C <sup>10</sup>		
SMAD1 total	63ADK063PEG <sup>2</sup>	ALSU-TSM1-A500 <sup>11</sup>			

- \*1: Available in 96, 500, 10000, 50000 tests
- Available in 50, 10000, 50000 tests
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   Available in 500, 10000, 100000 tests
   Available in 500, 100000 tests
- **5:** Available in 96, 500, 10000, 100000 tests
- **6:** Available in 500 tests
- 7: Available in 10000, 50000 tests

- 7. Available in 10000, 30000 tests
  8. Available in 100, 10000 tests
  9. Available in 100, 500, 5000 tests
  10. Available in 500, 5000 tests
  11. Available in 100, 500, 10000, 50000 tests
  12. Available in 100 tests

# TGF-β1 SIGNALING

NON-CANONICAL SMAD-INDEPENDENT SIGNALING				
Product	HTRF	AlphaLISA SureFire Ultra	LANCE Ultra	
AKT phospho S473	64AKSPEG <sup>1</sup>			
AKT phospho T308	64AKTPEG <sup>2</sup>			
AKT total	64NKTPEG <sup>1</sup>			
AKT1 phospho S473	63ADK078PEG <sup>2</sup>	ALSU-PAKT1-C500 <sup>11</sup>	TRF4013C <sup>8</sup>	
AKT1 phospho T308			TRF4006C <sup>8</sup>	
AKT1 total	63ADK079PEG <sup>2</sup>	ALSU-TAKT1-A500 <sup>11</sup>	TRF4007C <sup>8</sup>	
AKT1/2/3 phospho T308		ALSU-PAKT-B500 <sup>11</sup>	TRF4002C <sup>8</sup>	
AKT1/2/3 total		ALSU-TAKT-B-HV <sup>11</sup>		
AKT2 phospho S473	63ADK080PEG <sup>2</sup>			
AKT2 total	63ADK081PEG <sup>2</sup>			
AKT3 phospho S473	63ADK082PEG <sup>2</sup>			
AKT3 total	63ADK083PEG <sup>2</sup>			
c-Jun phospho S63	64JUNPEG <sup>2</sup>			
ERK phospho T202 /Y204	64AERPEG <sup>1</sup>	ALSU-PERK-A50 <sup>11</sup>	TRF4000C <sup>8</sup>	
ERK total	64NRKPEG <sup>1</sup>			
ERK1/2 total		ALSU-TERK-A500 <sup>11</sup>	TRF4001C <sup>8</sup>	
FoxO1 phospho S256	64FOXPEG <sup>2</sup>			
FoxO1 total	64NFOPEG <sup>2</sup>			
JNK phospho T183/Y185	64JNKPEG <sup>2</sup>			
JNK1/2 total		ALSU-TJNK-A500 <sup>11</sup>		
JNK1/3 phospho T183/Y185		ALSU-PJNK-A500 <sup>11</sup>		
STAT1 phospho S727		ALSU-PST1-B500 <sup>11</sup>		
STAT1 phospho Y701	63ADK026PEG <sup>2</sup>	ALSU-PST1-A500 <sup>11</sup>	TRF4028C <sup>8</sup>	
STAT1 total	63ADK096PEG <sup>2</sup>	ALSU-TST1-A500 <sup>11</sup>	TRF4029C <sup>8</sup>	
STAT3 phospho Y705		ALSU-PST3-A500 <sup>11</sup>	TRF4004C <sup>8</sup>	
STAT3 total	64NT3PEG <sup>2</sup>	ALSU-TST3-A500 <sup>11</sup>	TRF4005C <sup>8</sup>	
STAT4 phospho Y693		ALSU-PST4-A500 <sup>11</sup>		
STAT4 total (human)		ALSU-TST4-A500 <sup>11</sup>		
STAT5 phospho Y694	64AT5PEG <sup>2</sup>			
STAT5 phospho Y694/699		ALSU-PST5-B500 <sup>11</sup>	TRF4009C <sup>8</sup>	
STAT5 total		ALSU-TST5-A500 <sup>11</sup>		
STAT6 phospho Y641	64AT6PEG <sup>2</sup>	ALSU-PST6-A500 <sup>11</sup>		
STAT6 total (human)		ALSU-TST6-A500 <sup>11</sup>		

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## **IMMUNE CELLS CONTRIBUTION**

ADAPTIVE IMMUNITY				
Product	HTRF	AlphaLISA	AlphaLISA SureFire <i>Ultra</i>	LANCE Ultra
BTK phospho Y223	63ADK017PEG <sup>2</sup>		ALSU-PBTK-A500 <sup>11</sup>	TRF4022C <sup>8</sup>
BTK phospho Y551			ALSU-PBTK-B500 <sup>11</sup>	
BTK total	63ADK064PEG <sup>2</sup>	AL3110C <sup>9</sup>	ALSU-TBTK-A500 <sup>11</sup>	
SHP1 phospho Y536			ALSU-PSHP1-A500 <sup>11</sup>	
SHP1 phospho Y564	64SH1PEG <sup>2</sup>		ALSU-PSHP1-B500 <sup>11</sup>	
SHP1 total	64NH1PEG <sup>2</sup>		ALSU-TSHP1-A500 <sup>11</sup>	
SHP2 phospho Y542	64SH2PEG <sup>2</sup>		ALSU-PSHP2-A500 <sup>11</sup>	
SHP2 phospho Y580			ALSU-PSHP2-B500 <sup>11</sup>	
SHP2 total	64NH2PEG <sup>2</sup>		ALSU-TSHP2-A500 <sup>11</sup>	
SLP76 phospho S376 (mouse)	63ADK109PEG <sup>2</sup>			
SLP76 phospho S376	63ADK076PEG <sup>1</sup>		ALSU-PSLP-A500 <sup>11</sup>	TRF4010C <sup>8</sup>
SLP76 total (mouse)	63ADK110PEG <sup>2</sup>			
SLP76 total	63ADK077PEG <sup>2</sup>		ALSU-TSLP-A500 <sup>11</sup>	TRF4017C <sup>8</sup>
ZAP70 phospho Y319	64ZAPPEG <sup>2</sup>		ALSU-PZAP-A500 <sup>11</sup>	TRF4024C <sup>8</sup>
ZAP70 total	64ZATPEG <sup>2</sup>		ALSU-TZAP-A500 <sup>11</sup>	TRF40258

INNATE IMMUNITY				
Product	HTRF	AlphaLISA	AlphaLISA SureFire Ultra	LANCE <i>Ultra</i>
AQ STING (human)	64BDSTGQPEG <sup>3</sup>			
H232 STING (human)	64BDSTGHPEG <sup>3</sup>			
IRAK3 total	63ADK101PEG <sup>2</sup>			
IRAK4	63ADK108PEG <sup>6</sup>	AL3117C9		
IRAK4 total	Not available in 500 <sup>7</sup>			
STING (Mouse)	64BDSTGMPEG <sup>3</sup>			
STING	64BDSTGPEG <sup>3</sup>			
STING phospho S366	64STGPEG <sup>2</sup>			
STING total	64NTGPEG <sup>2</sup>		ALSU-TSTNG-A500 <sup>11</sup>	
TBK1 phospho S172 (human)			ALSU-PTBK1-A500 <sup>11</sup>	
TBK1 phospho S172	64TBKPEG <sup>2</sup>			TRF4031C <sup>8</sup>
TBK1 total (human)			ALSU-TTBK1-A500 <sup>11</sup>	
TBK1 total	64NTBPEG <sup>2</sup>			

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## **IMMUNE CELLS CONTRIBUTION**

INFLAMMATION				
Product	HTRF	AlphaLISA	AlphaLISA SureFire Ultra	LANCE <i>Ultra</i>
IFN- $lpha$ (bovine)		AL535C <sup>9</sup>		
IFN- $lpha$ (human)	62HIFNAPEG <sup>3</sup>	AL297C <sup>10</sup>		TRF1297C <sup>8</sup>
IFN- $\alpha$ (mouse)		AL550C <sup>9</sup>		
IFN- $lpha$ (porcine)		AL576C <sup>9</sup>		
IFN- $β$ (human)	62HIFNBPEG <sup>3</sup>	AL265C <sup>10</sup>		
IFN-β (mouse)	62MIFNBPEG <sup>3</sup>	AL586C <sup>9</sup>		
IFN-γ (cynomolgus)		AL561C <sup>9</sup>		
IFN-γ (human)	62HIFNGPEG	AL3031C <sup>9</sup>		TRF3039C <sup>8</sup>
IFN-γ (mouse)	62MIFNGPEG <sup>3</sup>	AL501C <sup>10</sup>		TRF15018
IFN-γ (porcine)		AL549C <sup>9</sup>		
IFN-I2 (human)		AL3031C <sup>9</sup>		TRF3039C <sup>8</sup>
IKKA phospho S176/180			ALSU-PIKKA-A500 <sup>11</sup>	
IKKB phospho S177/181	64KKBPEG <sup>2</sup>			
IKKB total	63ADK097PEG <sup>2</sup>			
IL-1β (mouse)		AL503C <sup>10</sup>		
IL-21 (mouse)		AL568C <sup>9</sup>		
IL-6 (bovine)		AL538C <sup>9</sup>		
IL-6 (cynomolgus)		AL555C <sup>9</sup>		
IL-6 (human)	62HIL06PEG <sup>5</sup>	AL3025C <sup>9</sup>		TRF1223C <sup>8</sup>
IL-6 (mouse)	62MIL06PEG <sup>3</sup>	AL504C <sup>10</sup>		TRF1504C <sup>8</sup>
IL-6 (porcine)		AL573C <sup>9</sup>		
NFkB P65 total				TRF4020C <sup>8</sup>
NFkB phospho S536	64NFBPEG <sup>1</sup>			TRF4019C <sup>8</sup>
NFkB total	64NFTPEG <sup>2</sup>			
TNF receptor 1 (TNFR1) (human)		AL3088C <sup>9</sup>		
TNF- $lpha$ (bovine)		AL534C <sup>9</sup>		
TNF- $lpha$ (cynomolgus)	62CTNFAPEG <sup>3</sup>	AL562C <sup>9</sup>		
TNF- $lpha$ (human)	62HTNFAPEG <sup>5</sup>	AL325C <sup>9</sup>		TRF1208C <sup>8</sup>
TNF- $\alpha$ (mouse)	62MTNFAPEG <sup>3</sup>	AL541C <sup>9</sup>		TRF1505C <sup>8</sup>
TNF- $lpha$ (porcine)		AL548C <sup>9</sup>		
TNF- $\alpha$ / TNFR1 binding (human)	64BDTNFPEG <sup>8</sup>			
TNF-α / TNFR1 binding		AL3120C <sup>10</sup>		
TNF-α / TNFR2 Binding		AL3121C <sup>10</sup>		

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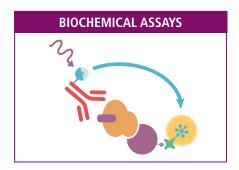
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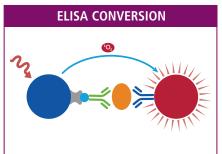
#### **Custom Labeling and Custom Assay Development Services**

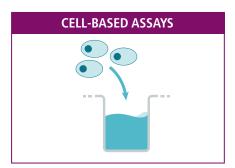
Don't see the assay you need listed here? PerkinElmer has partnered with industry and academia professionals to develop custom solutions to dramatically shorten the drug development process using our powerful, accurate HTRF®, DELFIA® and AlphaLISA® technologies.

An experienced Project Manager will evaluate your project's chance of success, then work with you to create a customized assay for the target you need to advance your research.

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