Revision 1

Store at +4C

#12031

SignalKine™ Human LIF Chemiluminescent Sandwich ELISA Kit

Cell Signaling TECHNOLOGY®

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Species Cross Reactivity: H

UniProt ID: #P15018

Entrez-Gene Id: #3976

For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes	Product #	Quantity	Color	Storage Temp
ELISA Wash Buffer (20X)	9801	25 ml	Colorless	+4C
Luminol/Enhancer Solution	84850	3 ml	Colorless	RT
Stable Peroxide Buffer	42552	3 ml	Colorless	RT
Sealing Tape	54503	2 ea		+4C

Description

SignalKine™ Human LIF Chemiluminescent Sandwich ELISA Kit from Cell Signaling Technology (CST) is a solid phase sandwich enzyme-linked immunosorbent assay (ELISA) that detects human LIF (hLIF) in multiple matrices. Unknown samples being tested for hLIF and hLIF standards are added to low volume microwells, where the hLIF is captured by the coated hLIF Rabbit mAb. Following a washing step, a biotinylated hLIF Detection Rabbit mAb is added to detect the captured hLIF. HRP-linked Streptavidin is then used for detection of the biotinylated hLIF Detection Rabbit mAb. A chemiluminescent reagent is added for signal development. The magnitude of light emission, measured in relative light units (RLU), is proportional to the quantity of human hLIF in the sample.
SignalKine™ Human LIF Chemiluminescent Sandwich ELISA Kit detects hLIF in multiple matrices that can be quantified by generating a standard curve with the recombinant hLIF protein standard provided. The hLIF standard range is from 12.3 to 9000 pg/ml. Samples containing higher levels of hLIF can be diluted to fit into the standard range.

Background

Leukemia Inhibitory Factor (LIF) is a 20 kDa pleiotrophic factor belonging to the IL-6 superfamily of cytokines (1). LIF is expressed in a number of tissues and cell types. The LIF receptor is a heterodimer composed of LIF-R (gp190) and gp130, a common signal transducer for IL-6-type cytokines (1). Depending on cell type and context, LIF/LIF-R can activate Erk, PI3K, and Jak1/Stat1/3 pathways (1,2). LIF has a diverse array of biological activities. Murine embryonic stem cells are dependent on LIF for pluripotency and self-renewal *in vitro* (1). Exercise-induced LIF secretion in muscle promotes myoblast proliferation, suggesting that LIF may play a role in exercise-induced muscle hypertrophy (2). LIF also negatively regulates Th2 and Th17 cell differentiation (3,4).

Background References

1. Mathieu, M.E. et al. (2012) *Stem Cell Rev* 8, 1-15.
2. Broholm, C. and Pedersen, B.K. (2010) *Exerc Immunol Rev* 16, 77-85.
3. Cao, W. et al. (2011) *Immunity* 35, 273-84.
4. Ullah, U. et al. (2012) *Sci Rep* 2, 464.

Trademarks and Patents

Limited Uses

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