Revision 1

Store at -20C

#12693

Endodermal Lineage Marker Antibody Sampler Kit

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355) orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
AFP (D12C1) Rabbit mAb	4448	40 µl	65 kDa	Rabbit IgG
N-Cadherin Antibody	4061	40 µl	140 kDa	Rabbit
EOMES Antibody	4540	40 µl	70 kDa	Rabbit
FoxA2/HNF3β (D56D6) XP® Rabbit mAb	8186	40 µl	50 kDa	Rabbit IgG
GATA-6 (D61E4) XP® Rabbit mAb	5851	40 µl	55 kDa	Rabbit IgG
HNF4α (C11F12) Rabbit mAb	3113	40 µl	52 kDa	Rabbit IgG
PDGF Receptor α (D13C6) XP® Rabbit mAb	5241	40 µl	190 kDa	Rabbit IgG
Sall4 (D16H12) Rabbit mAb	8459	40 µl	80, 142 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Endodermal Lineage Marker Antibody Sampler Kit provides an economical means of evaluating proteins expressed during endoderm development. This kit contains enough antibody to perform four western blot experiments per primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Background

Two endodermal lineages develop during mammalian embryogenesis, the primitive endoderm of the blastocyst stage embryo and the definitive endoderm at gastrulation. The primitive endoderm gives rise to extra-embryonic lineages encompassing the visceral and the parietal endoderm. The definitive endoderm contributes to the respiratory and gastrointestinal tracts by forming the epithelial lining of the trachea, esophagus, lungs, stomach and intestines, and is a major component of many glands, including thyroid, thymus, pancreas and liver (1). Understanding molecular mechanisms that regulate early endodermal fates is seminal for the advance of stem cell research as they connect the transition from pluripotency to endoderm specification during mammalian development and contribute to the generation of clinically relevant cell types. FoxA2/HNF3β is a transcription factor essential for development of the endoderm and midline structures in mouse embryos (2,3). EOMES acts during gastrulation to promote the specification of the definitive endoderm (4). Markers of hepatic differentiation in the endoderm include expression of α-fetoprotein (AFP) and N-cadherin (5,6). HNF4α is involved in the differentiation of the visceral endoderm. GATA-6 lies upstream of HNF4 in a transcriptional cascade that regulates differentiation of the visceral endoderm and is also required for the establishment of the endodermally derived bronchial epithelium (7). Sall4 is required for the formation of the primitive endoderm from inner cell mass. It has been reported that extra-embryonic stem cell lines cannot be formed in Sall4-deficient blastocysts (8). PDGF receptor α is expressed in primitive endoderm derivatives throughout embryogenesis (9).

Background References

1. Wells, J.M. and Melton, D.A. (1999) *Annu Rev Cell Dev Biol* 15, 393-410.
2. Weinstein, D.C. et al. (1994) *Cell* 78, 575-88.
3. Ang, S.L. and Rossant, J. (1994) *Cell* 78, 561-74.
4. Costello, I. et al. (2011) *Nat Cell Biol* 13, 1084-91.
5. Zhao, D. et al. (2009) *PLoS One* 4, e6468.
6. Meier, V. et al. (2006) *Comp Hepatol* 5, 2.
7. Morrisey, E.E. et al. (1998) *Genes Dev* 12, 3579-90.
8. Elling, U. et al. (2006) *Proc Natl Acad Sci U S A* 103, 16319-24.
9. Orr-Urtreger, A. et al. (1992) *Development* 115, 289-303.

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