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Extracellular Matrix Dynamics Antibody Sampler Kit

#63387

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For Research Use Only. Not For Use In Diagnostic Procedures.

Product Includes	Product #	Quantity	Mol. Wt.	Isotype/Source
COL1A1 (E8F4L) XP® Rabbit mAb	72026	20 µL	220 kDa	Rabbit IgG
Tenascin C (E5J3B) Rabbit mAb	33352	20 µL	200, 240 kDa	Rabbit IgG
Thrombospondin-1 (D7E5F) Rabbit mAb	37879	20 µL	170 kDa	Rabbit IgG
Fibronectin/FN1 (E5H6X) Rabbit mAb	26836	20 µL	300 kDa	Rabbit IgG
COL4A1 Antibody	50273	20 µL	200 kDa	Rabbit
SPARC (D10F10) Rabbit mAb	8725	20 µL	42 kDa	Rabbit IgG
Periostin (E5F2S) Rabbit mAb	20302	20 µL	90 kDa	Rabbit IgG
COL3A1 (E8D7R) XP® Rabbit mAb	63034	20 µL	200 kDa	Rabbit IgG
CYR61 (D4H5D) XP® Rabbit mAb	14479	20 µL	41 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µL		Goat

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions, and additional application protocols.

Description: The Extracellular Matrix Dynamics Antibody Sampler Kit provides an economical means of detecting selected proteins associated with dynamic remodeling of the extracellular matrix. The kit includes enough antibodies to perform two western blot experiments with each primary antibody.

Background: The extracellular matrix (ECM) is a three-dimensional macromolecular network composed of collagens, proteoglycans, glycosaminoglycans, elastin, fibronectin, laminins, along with many other proteins and glycoproteins. This network of macromolecules provides a dynamic microenvironment that supports cell and tissue function, and undergoes continuous remodeling during both normal development and disease (1). Remodeling of the ECM can alter the relative balance of macromolecules within distinct ECM subcompartments, with important functional consequences; for example, changes to the relative amounts of COL1A1 and COL3A1 in the interstitial ECM, or COL4A1 and laminins in the basement membrane, can influence cell-matrix interactions, and/or disrupt cellular signaling events (2). Fibronectin functions as a physical and functional bridge between many different ECM components, including collagens, growth factors, and cell surface integrins, and thus plays a critical role in facilitating ECM remodeling. Matricellular proteins (MCPs) are another important group of ECM proteins. MCPs can be categorized into 6 distinct subgroups: centralized coordination network (CCN), thrombospondin (THBS), secreted protein acidic and rich in cysteine (SPARC), tenascin (TN), small integrin-binding ligand N-linked glycoprotein (SIBLING), and γ-carboxyglutamate (Gla)-containing proteins. CCN1 (CYR61), SPARC, tenascin C, periostin, and thrombospondin-1 are among the most well-studied of this group. All are non-structural ECM proteins that interact with structural ECM proteins, in part to regulate the rigidity of the ECM. They also play important roles in matrix-cell communication by engaging with cell surface receptors and integrins to elicit intracellular responses. The dysregulation of MCP expression has been associated with the development of numerous disease states, including cancer and fibrosis (4,5).

Specificity: Each antibody in the Extracellular Matrix Dynamics Antibody Sampler Kit detects endogenous levels of its target protein. Periostin (E5F2S) Rabbit mAb recognizes endogenous levels of total human periostin protein. The antibody also weakly detects a 40 kDa protein of unknown identity.

Source/Purification: Monoclonal antibodies are produced by immunizing animals with recombinant proteins specific to the carboxy terminus of human Tenascin C protein and human Fibronectin/FN1 protein; with synthetic peptides corresponding to residues surrounding Phe1197 of human COL1A1 protein, Ser395 of human periostin protein, and Pro171 of human CYR61 protein, the amino terminus of human thrombospondin-1 protein and human SPARC protein, and the carboxy terminus of human COL3A1 protein. Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp536 of human COL4A1 protein. Antibodies are purified by peptide affinity chromatography.

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 antibodies.*

Please visit www.cellsignal.com for validation data and a complete listing of recommended companion products.

Background References:

(1) Bonnans, C. et al. (2014) *Nat Rev Mol Cell Biol* 15, 786-801.

(2) Zollinger, A.J. and Smith, M.L. (2017) *Matrix Biol* 60-61, 27-37.

(3) Theocharis, A.D. et al. (2019) *FEBS J* 286, 2830-2869.

(4) Gerarduzzi, C. et al. (2020) *Cancer Res* 80, 2705-2717.

(5) Feng, D. and Gerarduzzi, C. (2020) *Int J Mol Sci* 21, 4776. doi: 10.3390/ijms21134776.

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Applications: W—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity: H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.