

Using proximity extension proteomics assay to discover novel biomarkers associated with infarct size and ejection fraction after ST-elevation myocardial infarction

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Supplementary files

Supplementary Table 1.

CVC panel I

Protein	UniProt No	LOD	LLO Q	ULOQ	Intra- assay	Inter- assay
Adrenomedullin (AM)	P35318	977	977	62500	10%	18%
Agouti-related protein (AGRP)	O00253	244	244	125000	7%	12%
Angiopoietin-1 receptor (TIE2)	Q02763	61	122	250000	8%	12%
Beta-nerve growth factor (Beta-NGF)	P01138	2	2	31250	8%	25%
Caspase-8 (CASP-8)	Q14790	2	2	62500	7%	21%
Cathepsin D (CTSD)	P07339	9766	9766	2500000	8%	16%
Cathepsin L1 (CTSL1)	P07711	244	488	250000	7%	14%
C-C motif chemokine 3 (CCL3)	P10147	0.24	0.48	977	10%	18%
C-C motif chemokine 4 (CCL4)	P13236	0.95	0.95	62500	8%	12%
C-C motif chemokine 20 (CCL20)	P78556	4	4	15630	8%	9%
CD40 ligand (CD40L)	P29965	8	8	7810	8%	16%
Chitinase-3-like protein 1 (CHI3L1)	P36222	488	977	500000	11%	15%
C-X-C motif chemokine 1 (CXCL1)	P09341	15	15	15630	6%	13%
C-X-C motif chemokine 6 (CXCL6)	P80162	61	61	31250	8%	12%
C-X-C motif chemokine 16 (CXCL16)	Q9H2A7	488	488	125000	10%	14%
Cystatin-B (CSTB)	P04080	488	488	250000	8%	13%
Dickkopf-related protein 1 (Dkk-1)	O94907	122	244	250000	8%	15%
Endothelial cell-specific molecule 1 (ESM-1)	Q9NQ30	244	488	250000	9%	16%
Eosinophil cationic protein (ECP)	P12724	488	488	15630	5%	22%
Epidermal growth factor EGF)	P01133	0.95	2	3910	5%	9%
E-selectin (SELE)	P16581	244	488	500000	9%	13%
Fatty acid-binding protein, adipocyte (FABP4)	P15090	977	1950	250000	12%	14%
Fibroblast growth factor 23 FGF-23)	Q9GZV9	122	488	62500	9%	21%
Follistatin (FS)	P19883	977	977	1000000	10%	13%
Fractalkine (CX3CL1)	P78423	15	15	62500	9%	14%
Galanin peptides (GAL)	P22466	488	488	1000000	9%	17%
Galectin-3 (Gal-3)	P17931	3906	3906	500000	9%	12%
Growth hormone (GH)	P01241	0.95	2	15630	5%	14%
Growth/differentiation factor 15 (GDF-15)	Q99988	8	15	62500	9%	11%
Heat shock 27 kDa protein (HSP 27)	P04792	3910	7810	500000	9%	13%
Heparin-binding EGF-like growth factor (HB-EGF)	Q99075	2	2	7810	5%	14%
Hepatocyte growth factor (HGF)	P14210	31	61	125000	7%	12%
Interleukin-1 receptor antagonist protein (IL-1ra)	P18510	4	4	1950	6%	14%
Interleukin-4 (IL-4)	P05112	0.95	0.95	15630	5%	11%
Interleukin-6 (IL-6)	P05231	0.06	0.06	3910	8%	10%
Interleukin-6 receptor subunit alpha (IL-6RA)	P08887	488	488	500000	8%	14%
Interleukin-8 (IL-8)	P10145	0.12	0.12	3910	8%	12%
Interleukin-16 (IL-16)	Q14005	15	15	15630	5%	11%

Interleukin-18 (IL-18)	Q14116 Q8NEV9, Q14213	0.24	0.24	31250	8%	12%
Interleukin-27 (IL-27)		122	122	62500	8%	19%
Kallikrein-6 (KLK6)	Q92876	8	8	62500	11%	22%
Kallikrein-11 (hk11)	Q9UBX7	8	8	15630	9%	19%
Lectin-like oxidized LDL receptor 1 (LOX-1)	P78380	8	8	15630	5%	12%
Leptin (LEP)	P41159	488	488	62500	8%	12%
Macrophage colony-stimulating factor 1 (CSF-1)	P09603	0.12	0.12	7810	7%	12%
Matrix metalloproteinase-1 (MMP-1)	P03956	4	4	31250	5%	31%
Matrix metalloproteinase-3 (MMP-3)	P08254	3910	3910	250000	7%	20%
Matrix metalloproteinase-7 (MMP-7)	P09237	31	61	62500	11%	16%
Matrix metalloproteinase-10 (MMP-10)	P09238	4	4	31250	7%	15%
Matrix metalloproteinase-12 (MMP-12)	P39900	8	8	125000	9%	39%
Melusin (ITGB1BP2)	Q9UKP3	122	122	125000	13%	21%
Membrane-bound aminopeptidase P (mAmP)	O43895	9766	9766	1250000	13%	22%
Monocyte chemotactic protein 1 (MCP-1)	P13500	2	4	1950	7%	18%
Myeloperoxidase (MPO)	P05164	488	488	250000	5%	18%
Myoglobin (MB)	P02144	4883	4883	1250000	9%	17%
Natriuretic peptides B (BNP)	P16860	NR	NR	NR	NR	NR
NF-kappa-B essential modulator (NEMO)	Q9Y6K9	NR	NR	NR	8%	20%
N-terminal pro-B-type natriuretic peptide (NT-proBNP)	NA	3910	3910	250000	NR	NR
Osteoprotegerin (OPG)	O00300	0.95	0.95	62500	7%	11%
Ovarian cancer-related tumor marker CA 125 (CA-125)	Q8WXI7	NR	NR	NR	10%	20%
Pappalysin-1 (PAPPA)	Q13219	4883	9766	1000000 0	21%	5%
Pentraxin-related protein PTX3 (PTX-3)	P26022	244	244	15630	8%	20%
Placenta growth factor (PIGF)	P49763	0.48	2	31250	8%	13%
Platelet endothelial cell adhesion molecule (PECAM-1)	P16284	244	244	62500	8%	16%
Platelet-derived growth factor subunit B (PDGF subunit B)	P01127	244	244	250000	9%	14%
Prolactin (PRL)	P01236	3906	7812	1000000	9%	14%
Protein S100-A12 (EN-RAGE)	P80511	244	244	1000000	8%	22%
Proteinase-activated receptor 1 (PAR-1)	P25116	NR	NR	NR	6%	14%
Proto-oncogene tyrosine-protein kinase Src (SRC)	P12931	76	76	78125	4%	12%
P-selectin glycoprotein ligand 1 (PSGL-1)	Q14242	61	61	31250	8%	20%
Receptor for advanced glycosylation end products (RAGE)	Q15109	15	31	31250	8%	13%
Renin (REN)	P00797	15	15	31250	7%	13%
Resistin (RETN)	Q9HD89	122	244	250000	9%	18%
SIR2-like protein (SIRT2)	Q8IXJ6	122	122	125000	11%	20%
Spondin-1 (SPON1)	Q9HCB6	3906	3906	1000000	10%	13%
ST2 protein (ST2)	Q01638	122	122	125000	9%	14%
Stem cell factor (SCF)	P21583	0.12	0.12	7810	6%	13%
Thrombomodulin (TM)	P07204	8	15	15625	8%	14%
TIM-1 (TIM)	Q96D42	8	8	31250	10%	14%
Tissue factor (TF)	P13726	0.06	0.12	7810	7%	16%
Tissue-type plasminogen activator (t-PA)	P00750	244	244	500000	9%	14%

TNF-related activation-induced cytokine (TRANCE)	O14788	15	15	125000	9%	16%
TNF-related apoptosis-inducing ligand (TRAIL)	P50591	4	4	31250	7%	15%
TNF-related apoptosis-inducing ligand receptor 2 (TRAIL-R2)	O14763	8	15	62500	7%	15%
Tumor necrosis factor receptor 1 (TNF-R1)	P19438	2	4	31250	7%	11%
Tumor necrosis factor receptor 2 (TNF-R2)	P20333	488	488	250000	9%	14%
Tumor necrosis factor receptor superfamily member 5 (CD40)	P25942	0.24	0.48	15630	7%	12%
Tumor necrosis factor receptor superfamily member 6 (FAS)	P25445	31	31	250000	8%	12%
Tumor necrosis factor ligand superfamily member 14 (TNFSF14)	O43557	2	2	31250	8%	25%
Urokinase plasminogen activator surface receptor (uPA)	Q03405	0.24	0.48	7810	5%	12%
Vascular endothelial growth factor A (VEGF-A)	P15692	0.12	0.24	15630	8%	13%
Vascular endothelial growth factor D (VEGF-D)	O43915	61	61	62500	7%	13%

INF I panel

Protein	UniProt No	LOD	LLO Q	ULOQ	Intra	Inter
Adenosine Deaminase (ADA)	P00813	0.48	0.48	31250	5%	29%
Artemin (ARTN)	Q5T4W7	0.24	0.48	31250	7%	18%
Axin-1 (AXIN1)	O15169	61	61	62500	6%	19%
Beta-nerve growth factor (Beta-NGF)	P01138	0.48	0.48	15625	6%	14%
Brain-derived neurotrophic factor (BDNF)	P23560				6%	10%
Caspase 8 (CASP-8)	Q14790	0.48	0.48	31250	7%	22%
C-C motif chemokine 4 (CCL4)	P13236	1.9	1.9	31250	6%	17%
C-C motif chemokine 19 (CCL19)	Q99731	15	15	31250	8%	15%
C-C motif chemokine 20 (CCL20)	P78556	7.6	7.6	15625	7%	13%
C-C motif chemokine 23 (CCL23)	P55773	31	31	31250	6%	13%
C-C motif chemokine 25 (CCL25)	O15444	3.8	3.8	62500	6%	18%
C-C motif chemokine 28 (CCL28)	Q9NRJ3	61	122	1000000	7%	14%
CD40L receptor (CD40)	P25942	0.01	0.01	3906	5%	21%
CUB domain-containing protein 1 (CDCP1)	Q9H5V8	0.12	0.12	7812	6%	24%
C-X-C motif chemokine 1 (CXCL1)	P09341	3.8	7.6	15625	6%	15%
C-X-C motif chemokine 5 (CXCL5)	P42830	0.95	0.95	7812	7%	13%
C-X-C motif chemokine 6 (CXCL6)	P80162	7.6	31	15625	8%	14%
C-X-C motif chemokine 9 (CXCL9)	Q07325	0.95	0.95	3906	6%	12%
C-X-C motif chemokine 10 (CXCL10)	P02778	7.6	7.6	15625	7%	11%
C-X-C motif chemokine 11 (CXCL11)	O14625	7.6	31	15625	7%	14%
Cystatin D (CST5)	P28325	1.9	1.9	15625	5%	21%
Delta and Notch-like epidermal growth factor- related recep (DNER)	Q8NFT8	0.95	1.9	31250	5%	26%
Eotaxin-1 (CCL11)	P51671	3.8	3.8	31250	5%	14%
Eukaryotic translation initiation factor 4E-binding	Q13541				6%	23%
Fibroblast growth factor 5 (FGF-5)	Q8NF90	1.9	1.9	31250	7%	14%
Fibroblast growth factor 19 (FGF-19)	O95750	7.6	7.6	15625	6%	19%
Fibroblast growth factor 21 (FGF-21)	Q9NSA1	31	31	62500	8%	21%
Fibroblast growth factor 23 (FGF-23)	Q9GZV9	122	122	62500	9%	26%
Fms-related tyrosine kinase 3 ligand (Flt3L)	P49771	0.01	0.01	977	6%	15%

Fractalkine (CX3CL1)	P78423	15.3	15.3	15625	7%	24%
Glial cell line-derived neurotrophic factor (hGDNF)	P39905	0.01	0.01	1953	7%	12%
Hepatocyte growth factor (HGF)	P14210	7.6	7.6	125000	6%	16%
Interferon gamma (IFN-gamma)	P01579	15.3	15.3	62500	7%	17%
Interleukin-1 alpha (IL-1 alpha)	P01583	0.48	0.95	31250	7%	18%
Interleukin-2 (IL-2)	P60568	30.5	30.5	1000000	9%	16%
Interleukin-2 receptor subunit beta (IL-2RB)	P14784	15	31	250000	7%	19%
Interleukin-4 (IL-4)	P05112	0.24	0.24	7812	7%	16%
Interleukin-5 (IL-5)	P05113	3.8	3.8	15625	7%	17%
Interleukin-6 (IL-6)	P05231	0.12	0.12	3906	6%	8%
Interleukin-7 (IL-7)	P13232	0.24	0.24	7812	6%	18%
Interleukin-8 (IL-8)	P10145	0.03	0.03	3906	6%	15%
Interleukin-10 (IL-10)	P22301	0.48	0.48	62500	7%	12%
Interleukin-10 receptor subunit alpha (IL-10RA)	Q13651	3.8	7.6	250000	6%	19%
Interleukin-10 receptor subunit beta (IL-10RB)	Q08334	0.12	0.12	1953	5%	31%
Interleukin-12 subunit beta (IL-12B)	P29460	0.12	0.12	3906	6%	16%
Interleukin-13 (IL-13)	P35225	7.6	7.6	62500	14%	26%
Interleukin-15 receptor subunit alpha (IL-15RA)	Q13261	0.95	0.95	7812	6%	20%
Interleukin-17A (IL-17A)	Q16552	3.8	7.6	62500	8%	17%
Interleukin-17C (IL-17C)	Q9P0M4	31	31	125000	8%	18%
Interleukin-18 (IL-18)	Q14116	0.06	0.06	15625	6%	19%
Interleukin-18 receptor 1 (IL-18R1)	Q13478	0.06	0.06	7812	5%	26%
Interleukin-20 (IL-20)	Q9NYY1	7.6	15	62500	7%	22%
Interleukin-20 receptor subunit alpha (IL-20RA)	Q9UHF4	1.9	1.9	125000	6%	22%
Interleukin-22 receptor subunit alpha-1 (IL-22 RA1)	Q8N6P7	0.24	0.24	3906	7%	23%
Interleukin-24 (IL-24)	Q13007	1.9	3.8	31250	6%	29%
Interleukin-33 (IL-33)	Q95760	3.8	3.8	31250	9%	26%
Latency-associated peptide transforming growthfactor beta 1 (LAP TGF-beta-1)	P01137	61	61	500000	7%	24%
Leukemia inhibitory factor (LIF)	P15018	3.8	7.6	15625	7%	18%
Leukemia inhibitory factor receptor (LIF-R)	P42702	30.5	15.3	62500	7%	26%
Macrophage colony-stimulating factor 1 (CSF-1)	P09603	0.004	0.01	1953	5%	25%
Macrophage inflammatory protein 1-alpha (MIP-1)	P10147	0.06	0.06	488	6%	14%
Matrix metalloproteinase-1 (MMP-1)	P03956	1.9	3.8	15625	5%	19%
Matrix metalloproteinase-10 (MMP-10)	P09238	0.95	0.95	15625	5%	28%
Monocyte chemotactic protein 1 (MCP-1)	P13500	0.03	0.03	1953	6%	13%
Monocyte chemotactic protein 2 (MCP-2)	P80075	0.06	0.06	3906	6%	8%
Monocyte chemotactic protein 3 (MCP-3)	P80098	0.48	0.48	1953	7%	17%
Monocyte chemotactic protein 4 (MCP-4)	Q99616	7.6	7.6	3906	6%	11%
Natural killer cell receptor 2B4 (CD244)	Q9BZW8	0.06	0.06	7812	5%	24%
Neurotrophin-3 (NT-3)	P20783	0.12	0.12	3906	6%	13%
Neurturin (NRTN)	Q99748	3.8	7.6	15625	9%	15%
Oncostatin-M (OSM)	P13725	0.03	0.03	977	5%	12%
Osteoprotegerin (OPG)	O00300	0.24	0.48	31250	6%	12%

Programmed cell death 1 ligand 1 (PD-L1)	Q9NZQ7	3.8	3.8	500000	9%	25%
Protein S100-A12 (EN-RAGE)	P80511	122	122	500000	8%	17%
(SSiLgnAaMliFn1g) lymphocytic activation molecule	Q13291	31	31	1000000	9%	21%
SIR2-like protein 2 (SIRT2)	Q8IXJ6	7.6	15.3	62500	8%	22%
STAM-binding protein (STAMPB)	O95630	7.6	7.6	31250	5%	27%
Stem cell factor (SCF)	P21583	1.9	3.8	15625	5%	20%
Sulfotransferase 1A1 (ST1A1)	P50225	244	244	125000	6%	25%
T-cell surface glycoprotein CD5 (CD5)	P06127	0.06	0.12	3906	5%	22%
T cell surface glycoprotein CD6 isoform (CD6)	Q8WWJ7	0.24	0.24	7812	6%	23%
Thymic stromal lymphopoietin (TSLP)	Q969D9	3.8	3.8	15625	6%	20%
TNF-beta (TNFB)	P01374	0.24	0.48	15625	6%	22%
TNF-related activation-induced cytokine (TRANCE)	O14788	3.8	3.8	31250	7%	24%
TNF-related apoptosis-inducing ligand (TRAIL)	P50591	0.95	0.95	31250	5%	17%
Transforming growth factor alpha (TGF-alpha)	P01135	0.48	0.48	3906	6%	27%
Tumor necrosis factor (Ligand) superfamily,member 12 (TWEAK)	Q4ACW9	1.9	1.9	125000	6%	11%
Tumor necrosis factor (TNF)	P01375	0.48	0.48	3906	9%	11%
T1u4 m(TorN FnSeFcr1o4s)is factor ligand superfamily member	O43557	0.95	1.9	15625	6%	15%
Tumor necrosis factor receptor superfamily,member 9 (TNFRSF9)	Q07011	0.03	0.03	3906	5%	21%
Urokinase-type plasminogen activator (uPA)	P00749	0.12	0.12	7812	5%	11%
Vascular endothelial growth factor A (VEGF-A)	P15692	0.06	0.06	7812	6%	8%