

Online supplementary Table S4. Identified biomarkers according to tumour type

A. How many times each biomarker was studied (N of studies)

Biomarker	All studies	Pancreatic cancer	Gastric cancer	Oesophageal cancer	Biliary tract cancer
CA19-9	58	35	20	4	..
CEA	41	7	27	9	2
CA125	12	4	6	..	2
CA724	12	1	9	2	1
PGI	9	..	9	..	..
PGII	8	..	8	..	..
AFP	6	2	3	1	..
CYFRA21-1	6	1	1	4	..
miR-21	6	2	3	1	..
p53	6	..	2	4	..
TIMP-1	6	4	2	..	..
Osteopontin	5	3	2	..	..
CA242	4	2	1	..	1
C-Myc	4	..	2	2	..
HSP70	4	1	1	2	..
IL-6	4	3	1	..	..
miR-20a	4	1	3	..	..
miR-25	4	2	2	..	..
miR-296-5p	4	1	2	1	..
MMP-7	4	1	..	2	1
p62	4	..	2	2	..
apoAII-AT	3	3	..	..	..
apoAII-ATQ	3	3	..	..	..
Histidine	3	3	..	..	..
IL-8-CXCL8	3	2	1	..	..
miR-210	3	1	2	..	..
NSE	3	2	1	..	..
NY-ESO-1-CTAG1A	3	..	..	3	..
P16	3	..	2	1	..
Prx6	3	..	1	2	..
SCC-Antigen	3	..	..	3	..
Alanine	2	2	..	..	..
anti-TP53	2	..	1	1	..
APOC3	2	1	1	..	..
Asparagine	2	2	..	..	..
BMI-1	2	..	..	2	..
C16.1	2	1	1	..	..
C18.1	2	1	1	..	..
C18.2	2	1	1	..	..
C18.3	2	1	1	..	..
C20.4	2	1	1	..	..
C22.6	2	1	1	..	..
CA153	2	1	1	..	..
CEACAM-1	2	2	..	..	..
HCG	2	1	..	1	..
HpAb-IgG-anti-Helicobacterpylori	2	..	2	..	..
IGFBP2	2	2	..	..	..
IgG-Gal-ratio	2	2	1	1	..
IL-13	2	2	..	..	..
IL-4	2	2	..	..	..

Biomarker	All studies	Pancreatic cancer	Gastric cancer	Oesophageal cancer	Biliary tract cancer
IMP1	2	..	..	2	..
Isoleucine	2	2	..	..	..
Koc	2	..	..	2	..
MIC	2	2	..	..	..
miR-1	2	..	2	..	..
miR-106b	2	..	2	..	..
miR-106b-3p	2	2	..	..	..
miR-126-3p	2	2	..	..	..
miR-1285	2	2	..	..	..
miR-132-3p	2	..	2	..	..
miR-16	2	2	..	..	..
miR-181b	2	1	1	..	..
miR-185	2	1	1	..	..
miR-192-5p	2	1	..	1	..
miR-214	2	..	2	..	..
miR-221	2	..	2	..	..
miR-223	2	..	2	..	..
miR-26b-3p	2	2	..	..	..
miR-27a	2	..	2	..	..
miR-31	2	..	1	1	..
miR-376c	2	..	2	..	..
miR-423-5p	2	..	2	..	..
miR-486-5p	2	2	..	..	..
miR-744	2	..	2	..	..
miR-938	2	2	..	..	..
MMP-1	2	1	1	..	..
MMP-9	2	1	1	..	..
NPM1	2	..	2	..	..
PC-594	2	2	..	..	..
phosphatidylcholine-C18.0-C22.6	2	2	..	..	..
REG3A	2	2	..	..	..
SCF	2	..	1	1	..
Serine	2	2	..	..	..
TFF1	2	..	2	..	..
TFF2	2	..	2	..	..
TFF3	2	..	2	..	..
THBS2	2	2	..	..	..
TNF-a	2	1	1	..	..
Tryptophan	2	2	..	..	..
VEGF	2	2	..	..	..
ABHD3A	1	1	..	..	..
ABI1	1	1	..	..	..
AC100830.4	1	..	1	..	..
ACSL3	1	1	..	..	..
ADAM8	1	..	1	..	..
AHSG	1	..	..	1	..
AKR1B1	1	1	..	..	..
Albumin	1	1	..	..	..
ALCAM-CD166	1	1	..	..	..
AMBP	1	..	..	1	..
anti-ANXA4	1	..	1	..	..
anti-CTAG1	1	..	1	..	..
anti-DCT	1	..	1	..	..
anti-DDX53	1	..	1	..	..
anti-ERBB2-C	1	..	1	..	..

Biomarker	All studies	Pancreatic cancer	Gastric cancer	Oesophageal cancer	Biliary tract cancer
anti-FOLH1-iso1	1	..	1	..	..
anti-FOLH1-iso7	1	..	1	..	..
anti-GRINA	1	..	1	..	..
anti-HP-immunoglobulin-G	1	..	1	..	..
anti-IGF2BP1	1	..	1	..	..
anti-MAGEA4	1	..	1	..	..
anti-P53	1	..	..	1	..
anti-PSCA	1	..	1	..	..
anti-SDCCAG8	1	..	1	..	..
anti-TOPO48-autoantibody	1	..	..	1	..
anti-TPM3-iso3	1	..	1	..	..
ANXA1	1	..	1	..	..
any-screened-codons	1	1	..	..	..
APOA4	1	1	..	..	..
ApoC-I	1	..	1	..	..
ApoCIII-0	1	1	..	..	..
apolipoprotein-A1	1	1	..	..	..
Aprataxin-and-PNK-likefactor	1	1	..	..	..
artificial-peptide-1625	1	..	1	..	..
artificial-peptide-1656	1	..	1	..	..
artificial-peptide-1743	1	..	1	..	..
artificial-peptide-1754	1	..	1	..	..
artificial-peptide-707	1	..	1	..	..
artificial-peptide-799	1	..	1	..	..
artificial-peptide-877	1	..	1	..	..
ATG-authophagy-isoform-CRA-b	1	..	..	1	..
ATP11B	1	1	..	..	..
B3GNT5	1	1	..	..	..
BACH1	1	1	..	..	..
biomarker-14-3-3ξ	1	..	1	..	..
biomarker-5.8kDa-fibrinogen-fragment	1	1	..	..	..
butanal	1	..	1	1	..
butyric-acid	1	..	1	1	..
C2orf81	1	1	..	..	..
CA50	1	..	1	..	..
CA727	1	..	1	..	..
Calcineurin-B	1	1	..	..	..
Calcium-calmodulin-dependent-kinase-IV	1	1	..	..	..
CathepsinD	1	1	..	..	..
CathepsinS	1	..	1	..	..
CCNYL1	1	1	..	..	..
CD24	1	..	1	..	..
CENPN	1	1	..	..	..
Ceramide	1	1	..	..	..
CFHR3	1	1	..	..	..
CHI3L1	1	..	..	1	..
CLEC4D	1	1	..	..	..
c-Met-protein	1	..	1	..	..
CO2	1	1	..	..	..
COL17A1	1	1	..	..	..
COL18A1	1	1	..	..	..
Complement-C3	1	1	..	..	..
Complement-C4	1	1	..	..	..

Biomarker	All studies	Pancreatic cancer	Gastric cancer	Oesophageal cancer	Biliary tract cancer
Complement-C5	1	1	..	..	..
CRP	1	1	..	..	..
CSTB	1	..	1	..	..
CTAG2	1	..	1	..	..
CTC-501O10.1	1	..	1	..	..
CXCL7	1	1	..	..	..
CYB5R4	1	1	..	..	..
cyclinB1	1	..	..	1	..
Cyclin-dependent-kinase-2	1	1	..	..	..
DDX53	1	..	1	..	..
decanal	1	..	1	1	..
DENND1B	1	1	..	..	..
Dickkopf-1	1	..	..	1	..
Disks-large-homolog-1	1	1	..	..	..
DKK-1-autoantibody	1	..	..	1	..
DR-70-fibrinogen-fragment	1	1	..	..	..
DUPAN-2	1	1	..	..	..
Dysbindin	1	1	..	..	..
ECHDC3	1	1	..	..	..
EGF	1	1	..	..	..
EIF3G	1	..	1	..	..
ENA78-CXCL5	1	..	1	..	..
Endothelial-lipase	1	..	1	..	..
ENO1	1	..	1	..	..
ENTPD1	1	1	..	..	..
ERO1A	1	..	1	..	..
exosomal-lncUEGC1	1	..	1	..	..
exosomal-lncUEGC2	1	..	1	..	..
FAM198B	1	1	..	..	..
FAM49B	1	1	..	..	..
FAPa	1	..	..	1	..
FAR1	1	1	..	..	..
Ferritin	1	1	..	..	..
FGA	1	..	..	1	..
FGL2	1	1	..	..	..
FNDC3B	1	1	..	..	..
FOXD2-AS1	1	..	1	..	..
FPGT	1	1	..	..	..
f-PSA	1	1	..	..	..
G-17	1	..	1	..	..
GALNT4	1	1	..	..	..
gastrin	1	..	1	..	..
G-CSF	1	1	..	..	..
GKN1	1	..	1	..	..
GLP1	1	1	..	..	..
GTP-binding-protein-GEM	1	1	..	..	..
H19	1	..	1	..	..
HADH2-protein	1	1	..	..	..
Haptoglobin	1	1	..	..	..
HCC1.4	1	..	1	..	..
HCC-22-5	1	..	1	..	..
HCCR	1	..	..	1	..
HEATR5A	1	1	..	..	..
HER2-gene-fragments	1	..	1	..	..
hexanoic-acid	1	..	1	1	..
hotspot-codons-12	1	1	..	..	..

Biomarker	All studies	Pancreatic cancer	Gastric cancer	Oesophageal cancer	Biliary tract cancer
hotspot-codons-13	1	1	..	..	..
hotspot-codons-61	1	1	..	..	..
HRAS	1	..	..	1	..
HSP27	1	1	..	..	..
HSPD1	1	..	1	..	..
HTATIP2	1	1	..	..	..
ICAM-1	1	1	..	..	..
IFN-c	1	1	..	..	..
IFNGR1	1	1	..	..	..
IGF2BP2	1	..	1	..	..
IGF2BP3	1	..	1	..	..
IKBIP	1	1	..	..	..
IL-10	1	1	..	..	..
Il-12p70	1	1	..	..	..
IL-15	1	1	..	..	..
IL-1a	1	1	..	..	..
IL-1b	1	1	..	..	..
IL-2	1	1	..	..	..
Intercellular-adhesion-molecule-1	1	1	..	..	..
interferon-a	1	1	..	..	..
Interferon-gamma	1	1	..	..	..
IP-10-CXCL10	1	1	..	..	..
isocitrate	1	1	..	..	..
ITIH4	1	..	..	1	..
KM-HN-1	1	..	1	..	..
KRT4	1	..	1	..	..
KRT6A	1	..	1	..	..
L1ORF1	1	..	1	..	..
LDHA	1	1	..	..	..
Lewis-x	1	1	..	..	..
LINC00086	1	..	1	..	..
LINC00152	1	..	1	..	..
LINC00467	1	..	1	..	..
lncRNA-AOC4P	1	..	1	..	..
lncRNA-BANCR	1	..	1	..	..
lncRNA-CCAT2	1	..	1	..	..
lncRNA-LINC00857	1	..	1	..	..
lncRNA-RINCR	1	..	1	..	..
LOC100506474	1	..	1	..	..
LPAR6	1	1	..	..	..
LRG1	1	1	..	..	..
LY6K-autoantibodies	1	..	..	1	..
Lymphotoxin-alpha	1	1	..	..	..
LysoPC	1	1	..	..	..
MAGEA3	1	..	1	..	..
MBTPS2	1	1	..	..	..
MCMBP	1	1	..	..	..
MCP-1-CCL2	1	1	..	..	..
M-CSF	1	1	..	..	..
MDM2	1	..	1	..	..
Membrane-associated-guanylate-kinase, WW-PDZ-domain-containingprotein1	1	1	..	..	..
MIA	1	1	..	..	..
MICA	1	1	..	..	..

Biomarker	All studies	Pancreatic cancer	Gastric cancer	Oesophageal cancer	Biliary tract cancer
MICB	1	1	..	..	..
MIER1	1	1	..	..	..
miR-106a	1	..	1	..	..
miR-107	1	..	1	..	..
miR-10b-5p	1	..	1	..	..
miR-122-5p	1	1	..	..	..
miR-125b-5p	1	1	..	..	..
miR-1271	1	1	..	..	..
miR-1290	1	1	..	..	..
MiR-1322	1	..	..	1	..
MIR140-5p	1	..	1	..	..
miR-142-3p	1	..	1	..	..
miR-148a	1	1	1	..	..
miR-155	1	1	..	..	..
miR-17-5p	1	..	1	..	..
miR-181a	1	1	..	..	..
miR-181c-5p	1	1	..	..	..
miR-185-5p	1	..	1	..	..
miR-191	1	1	..	..	..
miR-193b-3p	1	1	..	..	..
miR-194	1	..	1	..	..
miR-195	1	..	1	..	..
miR-195-5p	1	..	1	..	..
miR196a	1	1	..	..	..
miR-19b-3p	1	1	..	..	..
miR-200a-3p	1	..	1	..	..
miR-203	1	..	1	..	..
miR20a-3p	1	..	1	..	..
miR-20b-5p	1	..	..	1	..
miR-218	1	..	1	..	..
miR-221-3p	1	1	..	..	..
miR223-3p	1	..	..	1	..
miR-22-5p	1	..	1	..	..
miR-24	1	1	..	..	..
miR-26a	1	..	1	..	..
miR-27b-3p	1	1	..	..	..
miR-28-3p	1	..	..	1	..
miR-3196	1	..	..	1	..
miR-34	1	..	1	..	..
miR-34a	1	..	1	..	..
miR-375	1	..	..	1	..
miR-378	1	..	1	..	..
miR-421	1	..	1	..	..
miR-451	1	..	1	..	..
miR-485-3p	1	..	1	..	..
miR-486	1	..	1	..	..
miR-663B	1	1	..	..	..
miR-6794-5p	1	..	..	1	..
miR-6799-5p	1	..	..	1	..
miR-6807-5p	1	..	1	..	..
miR-6820-5p	1	..	..	1	..
miR-6856-5p	1	..	1	..	..
miR-744-5p	1	..	..	1	..
miR-7-5p	1	1	..	..	..
miR-8073	1	..	..	1	..
miR-92a	1	..	1	..	..

Biomarker	All studies	Pancreatic cancer	Gastric cancer	Oesophageal cancer	Biliary tract cancer
miR-92b	1	..	1	..	..
miR93	1	..	1	..	..
miR-942	1	1	..	..	..
miR-99a	1	1	..	..	..
miRNA-146a	1	..	..	1	..
mirR-19a	1	..	..	1	..
MMP13	1	..	..	1	..
MMP-8	1	1	..	..	..
MPV	1	..	1	..	..
MTA1	1	..	1	..	..
MUC5AC	1	1	..	..	..
MYC	1	..	1	..	..
MYC-gene-fragments	1	..	1	..	..
Myomesin-2	1	1	..	..	..
NABP1-OBFC2A	1	1	..	..	..
neopterin	1	1	..	..	..
NFE2L2	1	1	..	..	..
NLR	1	..	1	..	..
NSG1	1	..	..	1	..
olfactomedin-4-GW112-hGC-1	1	..	1	..	..
OPG-osteoprotegerin	1	1	..	..	..
OSBPL8	1	1	..	..	..
p90	1	..	1	..	..
PAM4-Enzyme-Immunoassay	1	1	..	..	..
PAM4-reactive-MUC1	1	1	..	..	..
PANDAR	1	..	1	..	..
PDW	1	..	1	..	..
pentanoic-acid	1	..	1	1	..
peptide-molecular-weight-1468-m-z	1	..	1	..	..
peptide-molecular-weight-3935-m-z	1	..	1	..	..
peptide-molecularweight-7560-m-z	1	..	1	..	..
PhoSL-HP	1	1	..	..	..
Plasma-protease-C1-inhibitor	1	1	..	..	..
PLR	1	..	1	..	..
PPIH	1	1	..	..	..
PPL	1	..	1	..	..
PPP1R13L	1	1	..	..	..
PRDM5	1	1	..	..	..
PR-domain-zinc-finger-prot-8	1	1	..	..	..
proline	1	1	..	..	..
Properdin	1	1	..	..	..
Protein-kinase-C-zeta	1	1	..	..	..
Protein-tyrosine-kinase-6	1	1	..	..	..
PSA	1	1	..	..	..
PTEN	1	..	1	..	..
PTPRC	1	1	..	..	..
pyruvate	1	1	..	..	..
RAB10	1	1	..	..	..
RANBP9	1	..	1	..	..
RegIV	1	..	1	..	..
RP11-210K20.5	1	..	1	..	..
RPLP1	1	1	..	..	..
RRAGD	1	1	..	..	..

Biomarker	All studies	Pancreatic cancer	Gastric cancer	Oesophageal cancer	Biliary tract cancer
S100A10	1	..	1	..	..
SAA	1	1	..	..	..
sCD40L	1	1	..	..	..
SDF-1-CXCL12	1	..	1	..	..
sE-CAD	1	..	1	..	..
SEMA4B	1	..	1	..	..
Serine-threonine-protein-kinase-MARK1	1	1	..	..	..
sHLA-G1-plus-sHLA-G5	1	..	1	..	..
Sialyl-Lewis-x	1	1	..	..	..
SLC22A15	1	1	..	..	..
SLC44A1	1	1	..	..	..
SLFN12	1	1	..	..	..
SMARCC2	1	..	1	..	..
sMICA	1	1	..	..	..
SOX2	1	..	1	..	..
sphinganine-1-phosphate-d18.0	1	1	..	..	..
sphingomyelin	1	1	..	..	..
sphingomyelin-d17.1-C18.0	1	1	..	..	..
sphingomyelin-d18.2-C17.0	1	1	..	..	..
SPINK7	1	..	1	..	..
SPON1	1	1	..	..	..
SPP1	1	..	..	1	..
SRBD1	1	1	..	..	..
Stathmin-1	1	..	..	1	..
Survivin	1	..	..	1	..
TARC	1	..	1	..	..
tenascinC	1	1	..	..	..
TET2	1	1	..	..	..
TFPI	1	1	..	..	..
TGF-a	1	1	..	..	..
TIMP-3	1	1	..	..	..
TIMP-4	1	1	..	..	..
TK1	1	..	1	..	..
TLE2	1	1	..	..	..
TNFRSF1A	1	1	..	..	..
TP53-ep1	1	..	1	..	..
TP53-ep2	1	..	1	..	..
TPS	1	1	..	..	..
transthyretin	1	..	1	..	..
TSGF	1	1	..	..	..
TSP1	1	..	..	1	..
TumorM2-PK	1	..	1	1	..
UBE2W	1	1	..	..	..
UBE4A	1	1	..	..	..
UCA1	1	..	1	..	..
ULBP2	1	1	..	..	..
Uric-acid	1	1	..	..	..
USP15	1	1	..	..	..
Visual-systemhomeobox-2	1	1	..	..	..
VPS51-C11orf2	1	1	..	..	..
WSB1	1	1	..	..	..
XIST	1	..	1	..	..
YKL-40	1	..	..	1	..
ZEB2	1	1	..	..	..
ZMPSTE24	1	1	..	..	..

- B. Biomarkers investigated more than once, for the same tumour type, with individual measures of diagnostic performance (N of studies)

Biomarker	Pancreatic cancer	Gastric cancer	Oesophageal cancer	Biliary tract cancer
CA19-9	31	18	4	..
CEA	7	25	9	2
CA125	4	6	..	2
CA724	..	9	2	..
PGI	..	9	..	..
PGII	..	8	..	..
AFP	2	3	..	..
CYFRA21-1	..	..	4	..
miR-21	..	3	..	..
p53	..	2	..	..
TIMP-1	4	2	..	..
Osteopontin	3	2	..	..
CA242	2	..	..	..
NSE	2	..	..	..
SCC-Antigen	..	..	3	..
apoAII-AT	3	..	..	..
apoAII-ATQ	3	..	..	..
CEACAM-1	2	..	..	..
HpAb-IgG-anti-Helicobacter pylori	..	2	..	..
IGFBP2	2	..	..	..
IgG-Gal-ratio	2	..	..	..
MIC	2	..	..	..
miR-106b	..	2	..	..
miR-16	2	..	..	..
miR-214	..	2	..	..
miR-221	..	2	..	..
miR-223	..	2	..	..
miR-376c	..	2	..	..
miR-744	..	2	..	..
PC-594	2	..	..	..
REG3A	2	..	..	..
TFF1	..	2	..	..
TFF2	..	2	..	..
TFF3	..	2	..	..
THBS2	2	..	..	..

- C. Biomarkers investigated more than once, for the same tumour type, with individual measures of diagnostic performance, in studies adopting solely a reversed-flow design, or adopting it for at least one type of control (with measures)

Biomarker	Pancreatic cancer	Gastric cancer	Oesophageal cancer	Biliary tract cancer
Solely a reversed-flow design				
apoAII-AT	3	..	..	..
apoAII-ATQ	3	..	..	..
CA19-9	6	..	..	..
PGI	..	4	..	..
PGII	..	4	..	..
Reversed-flow design for at least one type of control				
CA19-9	4	..	..	..
CEA	..	2	..	..