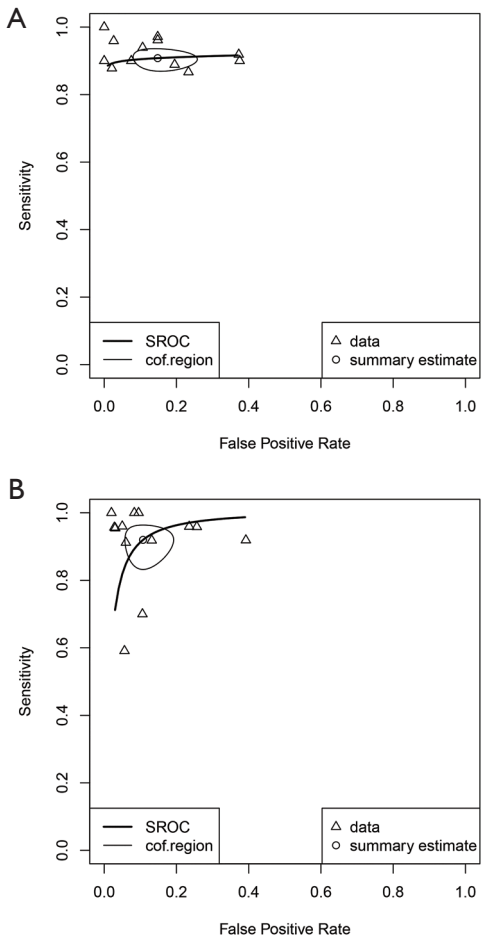

Figure S1 Summary receiver operating characteristic (SROC) curves of studies evaluating ascitic calprotectin (A) and lactoferrin (B) for the detection of SBP.

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Table S1 Characteristics calprotectin and lactoferrin ELISA kit manufacturers in each study

Author	Name of the tests	Company	City/state	Country
Calprotectin				
Abdel Rahman *et al*. (24)	NR	Assay Kit Co.	NR	USA
Abdel-Razik *et al*. (25)	NR	Immundiagnostik AG	Bensheim	Germany
Ali *et al*. (26)	NR	Immundiagnostik AG	Bensheim	Germany
El-Baz *et al*. (27)	DEH 325 Calprotectin human ELISA kit	Demeditech Diagnostics	Kiel	Germany
Fernades *et al*. (9)	point-of-care High-range-Quantum-Blue	Bühlmann Laboratories AG	Schönenbuch	Switzerland
Gad *et al*. (28)	Sunred Human ELISA kit	Sunred-bio	Shanghai	China
Heikl *et al*. (29)	NR	Epitope Diagnostics	California	USA
Kassem *et al*. (30)	Sunred Human ELISA kit	Sunred-bio	Shanghai	China
Makhlouf *et al*. (31)	RD 191217100R	BioVendor Laboratorni medicina	Brno	Czech Republic
Mohammed *et al*. (32)	NR	NR	NR	NR
Rizk *et al*. (14)	NR	Immundiagnostik AG	Bensheim	Germany
Weil *et al*. (33)	Quantum Blue Calprotectin Ascites	Bühlmann Laboratories AG	Schönenbuch	Switzerland
Lactoferrin				
Abuelfadi *et al*. (34)	Human Lactoferrin ELISA kit	Bethyl Laboratories Inc	Texas	USA
Al Sawaf *et al*. (35)	NR	NR	NR	NR
Ali *et al*. (36)	NR	Bioxytech	Paris	France
Chen *et al*. (37)	NR	NR	NR	NR
El-Baz *et al*. (27)	Assay Max Hu-man Lactoferrin ELISA Kit	AssayPro	Missouri	USA
Khalifa *et al*. (15)	Assay Max Human Lactoferrin ELISA Kit	Endomedix	New Jersey	USA
Kumar *et al*. (38)	NR	NR	NR	NR
Lee *et al*. (39)	Human lactoferrin ELISA kit	Bethyl Laboratories Inc	Tokyo	Japan
Liang *et al*. (40)	NR	NR	NR	NR
Makhlouf *et al*. (31)	Human lactoferrin ELISA kit	BioVendor Laboratoni Medicina	Brno	Czech Republic
Mohammad *et al*. (41)	NR	NR	NR	NR
Parsi *et al*. (7)	NR	NR	NR	NR
Salman *et al*. (42)	NR	NR	NR	NR

ELISA, enzyme-linked immunosorbent assay; NR, not reported.

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Table S2 Extracted data from studies evaluating ascitic calprotectin for detection of SBP

Study	Number of paracenteses (n)	Prevalence of SBP (%)	Cut-off value	Unit	Sensitivity (%)	Specificity (%)	TP (n)	FP (n)	FN (n)	TN (n)
Abdel Rahman *et al*. (24)	80	50	0.002	ug/mL	90	92.5	36	3	4	37
Abdel-Razik *et al*. (25)	79	65.82	0.445	ug/mL	95.4	85.2	50	4	2	23
Ali *et al*. (26)	72	69.44	0.372	ug/mL	100	100	50	0	0	22
El-Baz *et al*. (27)	88	42.05	0.048	ug/mL	91.7	62.7	34	19	3	32
Fernades *et al*. (9)	88	46.59	1.570	ug/mL	87.8	97.9	36	1	5	46
Gad *et al*. (28)	80	50	2.89	ng/mL	90	62.5	36	15	4	25
Heikl et al. (29)	70	71.43	0.783	ug/mL	90	100	45	0	5	20
Kassem *et al*. (30)	90	41.25	0.950	ug/mL	95	89.2	31	5	2	42
Makhlouf *et al*. (31)	87	56.32	0.710	ug/mL	95.9	97.4	47	1	2	37
Mohammed *et al*. (32)	60	50	0.096	ug/mL	86.7	76.7	26	7	4	23
Rizk *et al*. (14)	124	56.45	0.270	ug/mL	97.5	86	68	8	2	46
Weil *et al*. (33)	273	15.25	0.680	ug/mL	88.9	80.5	32	39	4	161

FN, false negative; FP, false positive; mL, milliliter; SBP, spontaneous bacterial peritonitis; TN, true negative; TP, true positive; ug, microgram.

Table S3 Extracted data from studies evaluating ascitic lactoferrin for detection of SBP

Study	Number of paracenteses (n)	Prevalence of SBP (%)	Cut-off value	Unit	Sensitivity (%)	Specificity (%)	TP (n)	FP (n)	FN (n)	TN (n)
Abuelfadi *et al*. (34)	150	66.67	75.55	ng/mL	100	98	100	1	0	49
Al Sawaf *et al*. (35)	168	29.17	100	ng/mL	95.9	76.5	47	28	2	91
Ali *et al*. (36)	96	62.5	88	ng/mL	100	91.7	60	3	0	33
Chen *et al*. (37)	111	19.82	46.1	ng/mL	59.1	94.8	13	5	9	84
El-Baz *et al*. (27)	88	42.05	189.9	ng/mL	91.9	60.8	34	20	3	31
Khalifa *et al*. (15)	70	71.43	270	ng/mL	96	95	48	1	2	19
Kumar *et al*. (38)	115	26.09	300	ng/mL	70	89.3	21	9	9	76
Lee *et al*. (39)	102	23.53	51.4	ng/mL	95.8	74.4	23	20	1	58
Liang *et al*. (40)	117	39.39	233	ng/mL	96.2	97.5	44	2	2	69
Makhlouf *et al*. (31)	87	56.32	118.2	ng/mL	91.5	86.1	45	5	4	33
Mohammad *et al*. (41)	84	40.48	83	ng/mL	91	94	31	3	3	47
Parsi *et al*. (7)	218	10.09	242	ng/mL	95.5	97	21	6	1	190
Salman *et al*. (42)	51	58.82	255	ng/mL	100	90.3	30	2	0	19

FN, false negative; FP, false positive; mL, milliliter; ng, nanogram; SBP, spontaneous bacterial peritonitis; TN, true negative; TP, true positive.

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Table S4 Detailed QUADAS form of studies evaluating ascitic calprotectin and lactoferrin for the detection of SBP

Study	Patient selection					Index test				Reference standard				Flow and timing				
	Was a consecutive or random sample of patients enrolled?	Was a case-control design avoided?	Did the study avoid inappropriate exclusions?	Could the selection of patients have introduced bias?	Is there concern the included patients do not match the review question?	Were the index test results interpreted without knowledge of the results of the reference standard?	If a threshold was used, was it pre-specified?	Could the conduct or interpretation of the index test have introduced bias?	Is there concern that the index test, its conduct, or interpretation differ from the review question?	Is the reference standard likely to correctly classify the target condition?	Were the reference standard results interpreted without knowledge of the results of the index test?	Could the reference standard, its conduct, or its, interpretation have introduced bias?	Is there concern the target condition as defined by the reference standard does not match the review question?	Was there an appropriate interval between index tests and reference standard?	Did all patients receive a reference standard?	Did patients receive the same reference standard?	Were all patients included in the analysis?	Could the patient flow have introduced bias?
Calprotectin																		
Abdel Rahman *et al*. (24)	Unclear	Yes	Yes	Low	Low	Unclear	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	No	Low
Abdel-Razik *et al*. (25)	Yes	Yes	Yes	Low	Low	Yes	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	No	Low
Ali *et al*. (26)	Unclear	Unclear	Yes	Low	Low	Unclear	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
El-Baz *et al*. (27)	Unclear	No	Yes	High	Low	Unclear	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Fernades *et al*. (9)	Yes	Yes	Yes	Low	Low	Yes	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Gad *et al*. (28)	No	No	Yes	High	Low	Unclear	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Heikl *et al*. (29)	No	No	Yes	High	Low	Unclear	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Kassem *et al*. (30)	Yes	No	Yes	High	Low	Unclear	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Makhlouf *et al*. (31)	Yes	Yes	Yes	Low	Low	Yes	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Mohammed *et al*. (32)	No	No	Yes	High	Low	Unclear	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Rizk *et al*. (14)	Yes	Yes	Yes	Low	Low	Yes	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	No	Low
Weil *et al*. (33)	Yes	Yes	Yes	Low	Low	Yes	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Lactoferrin																		
Abuelfadi *et al*. (34)	Unclear	No	Yes	High	Low	Unclear	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Al Sawaf *et al*. (35)	Yes	Yes	Yes	Low	Low	Yes	No	Low	Low	Yes	Unclear	Low	Low	Yes	Yes	Yes	Yes	Low
Ali *et al*. (36)	Unclear	Unclear	Yes	Low	Low	No	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Chen *et al*. (37)	Yes	Yes	Yes	Low	Low	Yes	No	Low	Low	Yes	Yes	Low	Low	Yes	Yes	Yes	Yes	Low
El-Baz *et al*. (27)	Unclear	No	Yes	High	Low	No	No	Low	Low	Yes	Yes	Low	Low	Yes	Yes	Yes	Yes	Low
Khalifa *et al*. (15)	Yes	No	Yes	High	Low	Unclear	No	Low	Low	Yes	Unclear	Low	Low	Yes	Yes	Yes	Yes	Low
Kumar *et al*. (38)	Yes	Yes	Unclear	Low	Low	Yes	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Lee *et al*. (39)	Yes	Yes	Yes	Low	Low	Yes	No	Low	Low	Yes	Yes	Low	Low	Yes	Yes	Yes	No	Low
Liang *et al*. (40)	Unclear	Yes	Unclear	High	Low	Unclear	No	Low	Low	Yes	Unclear	Low	Low	Yes	Yes	Yes	Yes	Low
Makhlouf *et al*. (31)	Yes	Yes	Yes	Low	Low	Yes	No	Low	Low	Yes	Yes	Low	Low	Yes	Yes	Yes	Yes	Low
Mohammad *et al*. (41)	Yes	Yes	Unclear	Low	Low	Yes	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low
Parsi *et al*. (7)	Yes	Yes	Yes	Low	Low	Unclear	No	Low	Low	Yes	Unclear	Low	Low	Yes	Yes	Yes	Yes	Low
Salman *et al*. (42)	Yes	Yes	Yes	Low	Low	Yes	No	Low	Low	Yes	No	Low	Low	Yes	Yes	Yes	Yes	Low

QUADAS, quality assessment of diagnostic accuracy studies; SBP, spontaneous bacterial peritonitis.

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