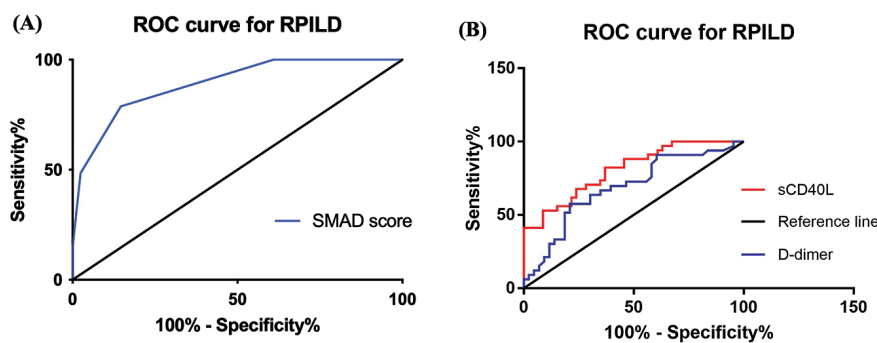


Supplementary Table S1. Comparison between anti-MDA5⁺ and anti-MDA5⁻ patients in RPILD.

	MDA5-RPILD n=17	non-MDA5-RPILD n=17	<i>p</i> value
Age, mean ± SD	55.71 ± 7.86	56.12 ± 13.96	0.028
Gender (male), n	10	10	1.000
Mortality, n	13 (n=16)	2 (n=15)	<0.001
Rashes, n	9	2	0.010
RO52, n	10	16	0.015
RBC (×10 ¹² /L)	4.05 ± 0.62	4.50 ± 0.47	0.023
WBC (×10 ⁹ /L)	6.65 ± 3.80	11.49 ± 5.18	0.004
Neutrophil (×10 ⁹ /L)	5.61 ± 3.60	9.68 ± 4.81	0.009
Lymphocyte (×10 ⁹ /L)	0.5 [0.4, 0.75]	1.30 ± 0.67	0.001
PLTs (×10 ⁹ /L)	174.06 ± 72.76	226 [208, 313]	0.002
C3 (g/L)	1.03 ± 0.22	1.22 ± 0.18	0.016
C4 (g/L)	0.28 ± .054	0.24 ± .05	0.048
IgE (IU/mL)	244 [62.5, 911]	72 [54, 142]	0.036
Albumin (g/L)	30.40 ± 3.29	33.72 ± 4.03	0.013
sCD40L (pg/mL)	1726.39 ± 1214.09	3122.41 ± 1711.42	0.010
APTT (seconds)	31.25 ± 4.01	26.93 ± 3.14	0.002
TT (seconds)	20.09 ± 2.77	17.94 ± 1.28	0.008

RBC: red blood cells; WBC: white blood cells; PLTs: platelets; APTT: activated partial thromboplastin time; TT: thrombin time.

The consistent variates are shown as mean ± SD or median [interquartile range].

**Supplementary Fig. S1.** ROC curves of sCD40L, D-dimer and SMAD score for RPILD.

(A) The AUC of SMAD model was 0.890. (B) The AUCs of sCD40L and D-dimer curves were 0.808 and 0.686. The SMAD model consisted of sCD40L > 1054 pg/ml (S), anti-MDA5 positivity (M), albumin < 32.4 g/L (A) and D-dimer > 0.865 mg/L (D).

Supplementary Table S2. Overview of prediction models published.

Authors and regions	years	Cohort size	Model elements
Gono T, Masui K, Nishina N, <i>et al.</i> (Japan)	2021	497	MCK model (anti-MDA-5 antibody status, CRP level, and KL-6 level)
So J, So H, Wong VT, <i>et al.</i> (South Korea)	2022	116	FLAW score (fever, LDH, age and white cell count)
Li Y, Li Y, Wang Y, <i>et al.</i> (China)	2021	326	RRP model (fever, periungual erythema, elevated CRP, anti-MDA5 antibody and anti-Ro-52 antibody)
Lian X, Zou J, Guo Q, <i>et al.</i> (China)	2020	207	FLAIR model (ferritin, LDH, anti-MDA5 antibody, HRCT imaging score)