

Table S1. Amplification primers (5'–3')

gene	forward	reverse
<i>CCL4</i>	CTC CTC ATG CTA GTA GCT GCC TTC	GGT GTA AGA AAA GCA GCA GGC GGT
<i>CCL5</i>	GTT GCA CCA AGC TAT GCA GGT	GCA GAA GCG TTT GGC AAT GT
<i>CCL11</i>	CCA CAC TGA AGG TCT CCG CA	TCT CTA GTC GCT GAA GGG GT
<i>CCL26</i>	ACT CCG AAA CAA TTG TGA CTC AGC TG	GTA ACT CTG GGA GGA AAC ACC CTC TCC
<i>CCR5</i>	CCC AGT GCA CAC AAG TGT AGG TAT C	GCT CAA GGC AGC TTA TTT CCA A
<i>GAPDH</i>	TTC ACC ACC ATG GAG AAG GC	AGG AGG CAT TGC TGA TGA TCT

Table S2. Patients' characteristics

	ECRS		Non-ECRS (n=5)
	rich Eos (n=5)	poor Eos (n=5)	
Age	56.0±6.9	50.8±15.4	62.4±11.7
Gender (M : F)	3 : 2	5 : 0	4 : 1
Eos in tissue (/HPF)	364 ± 172	32 ± 30**	8 ± 13**
Eos in blood (/μL)	529 ± 329	146 ± 44*	186 ± 214
FENO (ppb)	59.6 ± 18.4	20.4 ± 9.8**	NA
Polyp score	5.2 ± 1.6	4.4 ± 1.7	3.0 ± 2.0
LMS	15.4 ± 3.2	14.6 ± 6.9	10.4 ± 5.2
Total IgE (IU/mL)	159 ± 59	282 ± 474	982 ± 1864

ECRS; eosinophilic chronic rhinosinusitis, Eos; eosinophil, FENO; fractionated exhaled nitric oxide, HPF; high-power field, LMS; Lund-Mackay scale, NA; not applicable, Descriptive statistics are expressed as means ± SD, * $P < 0.05$, ** $P < 0.01$ (vs. ECRS with rich Eos).

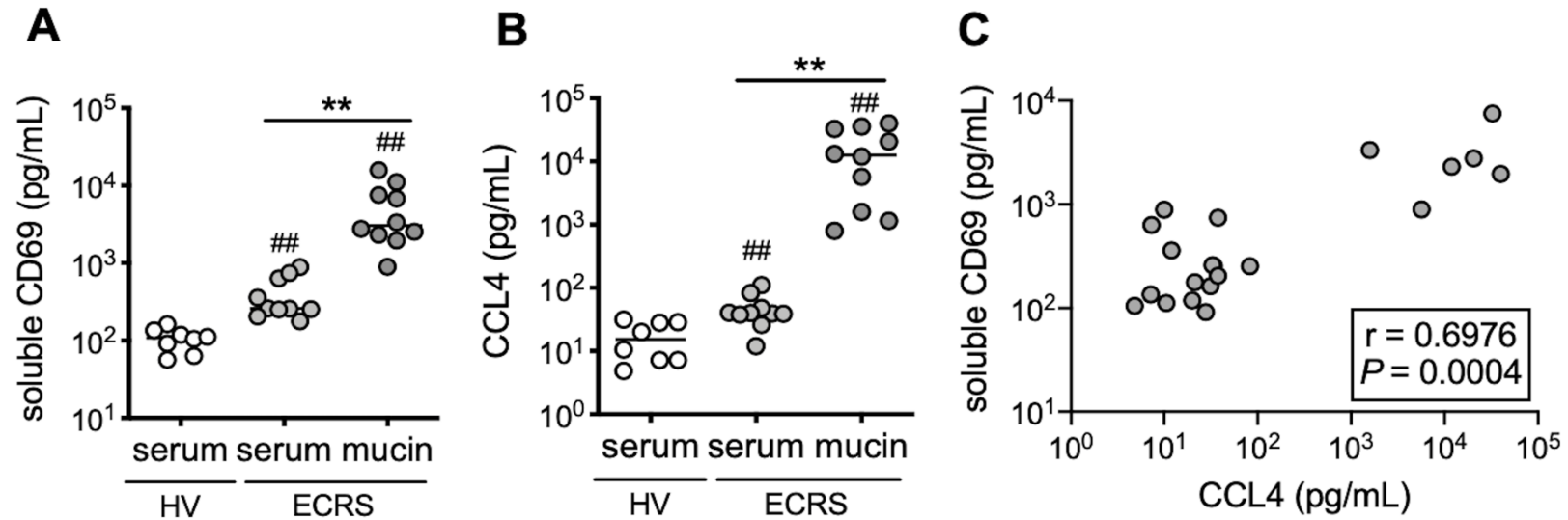


Figure S1. Soluble CD69 and CCL4 levels in serum and mucin of patients with refractory ECRS. **A, B,** Soluble CD69 (A) and CCL4 (B) levels in serum and/or mucin supernatant obtained from healthy volunteers (HV) and patients with refractory ECRS (ECRS) were measured. Individual values of serum from HV ($n = 8$), serum from ECRS ($n = 10$) and mucin from ECRS ($n = 10$) are shown; $## P < 0.01$ (vs. serum from HV), $**P < 0.01$ (as shown between the two groups). **C,** Correlation between soluble CD69 and CCL4 levels ($n = 21$).

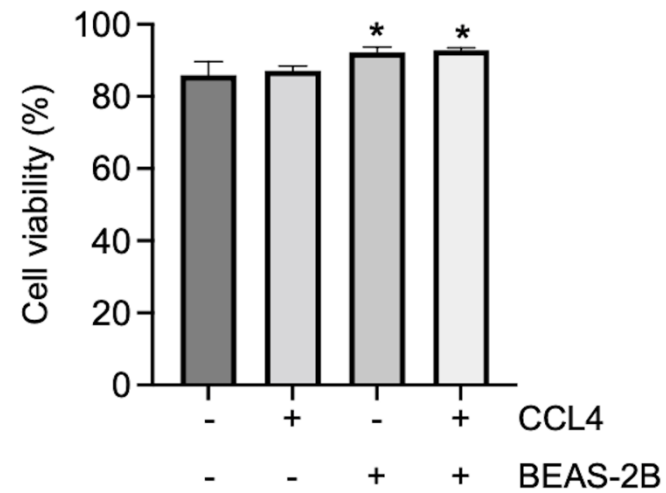


Figure S2. The effect of CCL4 on eosinophil survival. Viability of eosinophils coincubated overnight with BEAS-2B cells and/ or CCL4 (10 $\mu\text{g/mL}$) were analyzed by Flow cytometry. Values represent the mean \pm SEM values of four experiments; * $p < 0.05$ (vs. eosinophil without BEAS-2B co-incubation).