

**Supplementary table 1.** Questions on past and current smoking habits in GESS, EIRA 1 and EIRA 2 (translated from Swedish).

Questionnaire	Formulation of questions	Start of smoking period	End of smoking period	Smoking dose	Other
<b>GESS</b>	<p>Do you smoke regularly or have you previously smoked regularly during any period in your life? (answers: yes/no)</p> <p>If "yes", please provide time periods and amount below. If you still smoke regularly, state the current year in the box "to year"</p>	From year	To year	Number of cigarettes per day	Respondents were able to provide four periods of regular smoking. The equivalent questions were also provided for intermittent smoking.
<b>EIRA 1</b>	<p>Do you smoke? (answers: No/Yes, regularly/yes, intermittently, e.g. at parties)</p> <p>If you do not smoke, have you previously smoked? (answers: No/Yes, regularly/yes, intermittently, e.g. at parties)</p>	If you smoke/previously smoked, what year did you start?	If you previously smoked, what year did you stop?	How many cigarettes/day?	Respondents were able to provide one period of smoking.
<b>EIRA 2</b>	If you smoke regularly or have previously smoked regularly, tick the box and provide time-period and amount below.	From year	To year	Number of cigarettes per day	Respondents were able to provide four periods of regular smoking. The equivalent questions were also provided for intermittent smoking.

**Supplementary table 2.** Age-wise period prevalence of regular smoking prior to pSS diagnosis.

pSS patients	Age	Risk estimate		<u>N exposed (%)</u>	
		Odds Ratio	95% CI	Cases	Controls
<b>All pSS patients</b>	<b>10 to 19 years</b>	0.85	(0.67-1.07)	<u>135 (26%)</u>	<u>1,059 (24%)</u>
	<b>20 to 29 years</b>	<b>0.81</b>	(0.65-1.00)	<u>170 (34%)</u>	<u>1,437 (35%)</u>
	<b>30 to 39 years</b>	0.80	(0.63-1.02)	<u>128 (30%)</u>	<u>1,136 (32%)</u>
	<b>40 to 49 years</b>	0.74	(0.55-1.00)	<u>74 (22%)</u>	<u>792 (29%)</u>
<b>SSA and/or SSB positive pSS</b>	<b>10 to 19 years</b>	0.82	(0.63-1.08)	<u>95 (26%)</u>	<u>763 (25%)</u>
	<b>20 to 29 years</b>	0.81	(0.63-1.04)	<u>122 (35%)</u>	<u>1,014 (36%)</u>
	<b>30 to 39 years</b>	0.86	(0.64-1.15)	<u>92 (32%)</u>	<u>777 (33%)</u>
	<b>40 to 49 years</b>	0.84	(0.58-1.21)	<u>51 (23%)</u>	<u>523 (29%)</u>
<b>SSA/SSB negative pSS</b>	<b>10 to 19 years</b>	0.92	(0.60-1.41)	<u>39 (26%)</u>	<u>286 (22%)</u>
	<b>20 to 29 years</b>	0.81	(0.54-1.21)	<u>47 (32%)</u>	<u>410 (33%)</u>
	<b>30 to 39 years</b>	0.70	(0.44-1.09)	<u>36 (27%)</u>	<u>350 (31%)</u>
	<b>40 to 49 years</b>	0.61	(0.35-1.03)	<u>23 (21%)</u>	<u>264 (29%)</u>

Abbreviations: pSS, primary Sjögren's syndrome; SSA, Ro/SSA autoantibodies; La/SSB autoantibodies; CI, confidence interval.

**Supplementary table 3.** HLA frequency analysis in pSS patients and controls.

pSS patients	Presence of $\geq 1$ HLA allele	Crude risk estimate <sup>4</sup>		Adjusted risk estimate <sup>5</sup>		Allele frequency	
		Odds Ratio	95% CI	Odds Ratio	95% CI	Cases	Controls
All pSS patients <sup>1</sup>	HLA-DRB1*01	<b>0.55</b>	(0.39-0.78)			13%	21%
	HLA-DRB1*03	<b>3.38</b>	(2.63-4.34)	<b>3.31</b>	(2.52-4.34)	55%	25%
	HLA-DRB1*04	<b>0.51</b>	(0.38-0.68)			23%	36%
	HLA-DRB1*10	0.82	(0.27-2.46)			1%	2%
	HLA-DRB1*15	<b>1.66</b>	(1.29-2.13)	<b>1.74</b>	(1.31-2.32)	39%	28%
	HLA-DRB1*01/04/10	<b>0.41</b>	(0.32-0.53)	<b>0.63</b>	(0.48-0.84)	33%	54%
SSA/SSB positive pSS <sup>2</sup>	HLA-DRB1*01	<b>0.37</b>	(0.23-0.58)			9%	22%
	HLA-DRB1*03	<b>5.04</b>	(3.69-6.91)	<b>5.06</b>	(3.58-7.16)	67%	27%
	HLA-DRB1*04	<b>0.29</b>	(0.20-0.44)			15%	36%
	HLA-DRB1*10	0.55	(0.12-2.44)			1%	2%
	HLA-DRB1*15	<b>2.00</b>	(1.49-2.68)	<b>2.08</b>	(1.46-2.96)	43%	28%
	HLA-DRB1*01/04/10	<b>0.25</b>	(0.18-0.36)	<b>0.41</b>	(0.28-0.60)	24%	54%
SSA/SSB negative pSS <sup>3</sup>	HLA-DRB1*01	1.14	(0.65-2.00)			21%	19%
	HLA-DRB1*03	1.22	(0.74-2.01)	1.27	(0.74-2.19)	25%	21%
	HLA-DRB1*04	1.24	(0.79-1.94)			42%	37%
	HLA-DRB1*10	1.74	(0.30-10.12)			2%	2%
	HLA-DRB1*15	1.02	(0.62-1.69)	1.08	(0.64-1.84)	28%	27%
	HLA-DRB1*01/04/10	1.02	(0.66-1.57)	1.09	(0.68-1.76)	54%	54%

<sup>1</sup> n=347 cases, n=2,074 controls.

<sup>2</sup> n=245 cases, n=1,442 controls.

<sup>3</sup> n=100 cases, n=608 controls.

<sup>4</sup> univariate conditional logistic regression; exposure and reference group were mutually exclusive and collectively exhaustive.

<sup>5</sup> multivariate conditional logistic regression; HLA-DRB1\*03, HLA-DRB1\*15 and HLA-DRB1\*01/04/10 were explanatory variables.

Abbreviations: HLA, human leukocyte antigen; pSS, primary Sjögren's syndrome; SSA, Ro/SSA autoantibodies; La/SSB autoantibodies; CI, confidence interval.

**Supplementary table 4.** SSA and SSB distribution in assessed HLA-DRB1 categories.

	<b>serological distribution</b>	
	<b>SSA/SSB positive pSS patients</b>	<b>SSA/SSB negative pSS patients</b>
<b>HLA-DRB1*03 pSS patients</b>	87%	13%
<b>HLA-DRB1*15 pSS patients</b>	80%	20%
<b>HLA-DRB1*01/04/10 pSS patients</b>	52%	47%

Abbreviations: SSA, Ro/SSA autoantibodies; SSB, La/SSB autoantibodies; HLA, human leukocyte antigen; pSS, primary Sjögren's syndrome.