

**Supplementary Table 3.** Incidence rate ratio of malignancy in patients with type 2 diabetes mellitus: GLP-1 RA group vs. DM control group

Outcome	GLP-1 RA		DM control		IRR (95% CI)	P value
	Event	Person-year	Event	Person-year		
Total						
All cancers	244	15,948	261	15,985	0.937 (0.787–1.116)	0.465
Lip	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Tongue	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Oral cavity	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Salivary gland	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Tonsil	0	16,822	1	16,967	0.336 (0.014–8.253)	0.504
Oropharynx	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Nasopharynx	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Hypopharynx	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Esophagus	1	16,820	2	16,967	0.504 (0.046–5.562)	0.576
Stomach	25	16,743	26	16,851	0.968 (0.559–1.676)	0.907
Small intestine	1	16,821	2	16,964	0.504 (0.046–5.561)	0.576
Colon	25	16,709	34	16,855	0.742 (0.443–1.243)	0.257
Anus	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Liver	34	16,692	39	16,850	0.880 (0.556–1.394)	0.586
Gallbladder and biliary tract	8	16,801	15	16,905	0.537 (0.228–1.266)	0.155
Pancreas	28	16,746	38	16,861	0.742 (0.455–1.209)	0.231
Nasal cavity	0	16,822	1	16,963	0.336 (0.014–8.251)	0.504
Larynx	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Lung	17	16,786	20	16,901	0.856 (0.448–1.634)	0.637
Mediastinum and pleura	1	16,822	0	16,968	3.026 (0.123–74.283)	0.498
Bone and cartilage	0	16,822	2	16,967	0.202 (0.010–4.202)	0.301
Melanoma of skin	1	16,819	1	16,969	1.009 (0.063–16.130)	0.995
Mesothelioma	0	16,822	0	16,967	1.009 (0.020–50.830)	0.997
Kaposi's sarcoma	0	16,822	0	16,968	1.009 (0.020–50.833)	0.997
Breast	24	16,728	18	16,918	1.348 (0.732–2.485)	0.338
Vulva	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Vagina	1	16,819	0	16,969	3.027 (0.123–74.300)	0.498
Cervix uteri	3	16,803	4	16,964	0.757 (0.169–3.383)	0.716
Corpus uteri	12	16,779	17	16,919	0.712 (0.340–1.490)	0.367
Ovary	13	16,775	11	16,942	1.194 (0.535–2.664)	0.666
Penis	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Prostate	19	16,767	23	16,877	0.832 (0.453–1.527)	0.552
Testis	1	16,820	0	16,969	3.027 (0.123–74.297)	0.498
Kidney	12	16,773	8	16,939	1.515 (0.619–3.706)	0.363
Renal pelvis	0	16,822	1	16,964	0.336 (0.014–8.251)	0.504
Ureter	0	16,822	1	16,965	0.336 (0.014–8.252)	0.504

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Supplementary Table 3. Continued

Outcome	GLP-1 RA		DM control		IRR (95% CI)	P value
	Event	Person-year	Event	Person-year		
Bladder	7	16,795	11	16,934	0.642 (0.249–1.655)	0.359
Brain and CNS	3	16,819	2	16,965	1.513 (0.253–9.055)	0.650
Thyroid	34	16,679	26	16,839	1.320 (0.792–2.200)	0.286
Medullary thyroid cancer	1	16,819	3	16,944	0.336 (0.035–3.228)	0.345
Adrenal	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Hodgkin lymphoma	0	16,822	0	16,969	1.009 (0.020–50.837)	0.997
Non-Hodgkin lymphoma	4	16,808	1	16,966	4.038 (0.451–36.124)	0.212
Myeloma	4	16,817	3	16,960	1.345 (0.301–6.008)	0.698
Lymphoid leukemia	1	16,821	1	16,969	1.009 (0.063–16.128)	0.995
Myeloid leukemia	2	16,810	3	16,957	0.672 (0.112–4.025)	0.664
Male						
All cancers	100	6,480	117	6,963	0.918 (0.703–1.199)	0.532
Lip	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Tongue	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Oral cavity	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Salivary gland	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Tonsil	0	6,785	1	7,371	0.362 (0.015–8.890)	0.534
Oropharynx	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Nasopharynx	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Hypopharynx	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Esophagus	1	6,783	1	7,372	1.087 (0.068–17.377)	0.953
Stomach	13	6,753	15	7,325	0.940 (0.447–1.975)	0.870
Small intestine	0	6,785	1	7,369	0.362 (0.015–8.887)	0.534
Colon	11	6,729	12	7,349	1.001 (0.442–2.269)	0.998
Anus	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Liver	15	6,735	21	7,307	0.775 (0.399–1.503)	0.451
Gallbladder and biliary tract	2	6,783	7	7,345	0.309 (0.064–1.489)	0.143
Pancreas	12	6,764	22	7,318	0.590 (0.292–1.192)	0.142
Nasal cavity	0	6,785	1	7,368	0.362 (0.015–8.885)	0.534
Larynx	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Lung	12	6,771	16	7,327	0.812 (0.384–1.716)	0.585
Mediastinum and pleura	1	6,785	0	7,374	3.261 (0.133–80.039)	0.469
Bone and cartilage	0	6,785	1	7,373	0.362 (0.015–8.892)	0.534
Melanoma of skin	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Mesothelioma	0	6,785	1	7,371	0.362 (0.015–8.890)	0.534
Kaposi's sarcoma	0	6,785	1	7,372	0.362 (0.015–8.891)	0.534
Breast	1	6,777	0	7,374	3.264 (0.133–80.134)	0.469
Vulva	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967

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Supplementary Table 3. Continued

Outcome	GLP-1 RA		DM control		IRR (95% CI)	P value
	Event	Person-year	Event	Person-year		
Vagina	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Cervix uteri	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Corpus uteri	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Ovary	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Penis	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Prostate	19	6,730	23	7,282	0.894 (0.487–1.641)	0.717
Testis	1	6,783	0	7,374	3.261 (0.133–80.060)	0.469
Kidney	5	6,769	4	7,354	1.358 (0.365–5.057)	0.648
Renal pelvis	0	6,785	1	7,368	0.362 (0.015–8.886)	0.534
Ureter	0	6,785	1	7,370	0.362 (0.015–8.887)	0.534
Bladder	5	6,765	7	7,353	0.776 (0.246–2.446)	0.665
Brain and CNS	1	6,785	0	7,374	3.261 (0.133–80.037)	0.469
Thyroid	8	6,752	5	7,358	1.744 (0.570–5.330)	0.329
Medullary thyroid cancer	0	6,785	1	7,368	0.362 (0.015–8.886)	0.534
Adrenal	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Hodgkin lymphoma	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Non-Hodgkin lymphoma	0	6,785	1	7,371	0.362 (0.015–8.888)	0.534
Myeloma	3	6,781	1	7,370	3.261 (0.339–31.348)	0.306
Lymphoid leukemia	0	6,785	0	7,374	1.087 (0.022–54.770)	0.967
Myeloid leukemia	0	6,785	1	7,364	0.362 (0.015–8.881)	0.534
Female						
All cancers	144	9,468	144	9,022	0.953 (0.756–1.201)	0.682
Lip	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Tongue	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Oral cavity	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Salivary gland	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Tonsil	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Oropharynx	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Nasopharynx	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Hypopharynx	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Esophagus	0	10,037	1	9,594	0.319 (0.013–7.822)	0.484
Stomach	12	9,990	11	9,526	1.040 (0.459–2.358)	0.925
Small intestine	1	10,036	1	9,595	0.956 (0.060–15.285)	0.975
Colon	14	9,980	22	9,506	0.606 (0.310–1.185)	0.143
Anus	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Liver	19	9,957	18	9,543	1.012 (0.531–1.928)	0.972
Gallbladder and biliary tract	6	10,018	8	9,561	0.716 (0.248–2.063)	0.536
Pancreas	16	9,981	16	9,543	0.956 (0.478–1.912)	0.899

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Supplementary Table 3. Continued

Outcome	GLP-1 RA		DM control		IRR (95% CI)	P value
	Event	Person-year	Event	Person-year		
Nasal cavity	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Larynx	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Lung	5	10,016	4	9,574	1.195 (0.321–4.450)	0.791
Mediastinum and pleura	0	10,037	1	9,594	0.319 (0.013–7.821)	0.484
Bone and cartilage	0	10,037	1	9,594	0.319 (0.013–7.821)	0.484
Melanoma of skin	1	10,034	0	9,595	2.869 (0.117–70.421)	0.519
Mesothelioma	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Kaposi's sarcoma	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Breast	23	9,952	18	9,544	1.225 (0.661–2.271)	0.518
Vulva	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Vagina	1	10,034	0	9,595	2.869 (0.117–70.423)	0.519
Cervix uteri	3	10,018	4	9,590	0.718 (0.161–3.208)	0.664
Corpus uteri	12	9,993	17	9,545	0.674 (0.322–1.412)	0.296
Ovary	13	9,990	11	9,568	1.132 (0.507–2.527)	0.762
Penis	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Prostate	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Testis	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Kidney	7	10,004	4	9,585	1.677 (0.491–5.727)	0.410
Renal pelvis	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Ureter	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Bladder	2	10,029	4	9,581	0.478 (0.087–2.608)	0.394
Brain and CNS	2	10,034	2	9,591	0.956 (0.135–6.786)	0.964
Thyroid	26	9,927	21	9,481	1.182 (0.665–2.102)	0.568
Medullary thyroid cancer	1	10,034	2	9,576	0.477 (0.043–5.262)	0.546
Adrenal	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Hodgkin lymphoma	0	10,037	0	9,595	0.956 (0.019–48.179)	0.982
Non-Hodgkin lymphoma	4	10,023	0	9,595	8.616 (0.464–160.037)	0.149
Myeloma	1	10,036	2	9,589	0.478 (0.043–5.269)	0.546
Lymphoid leukemia	1	10,036	1	9,595	0.956 (0.060–15.285)	0.975
Myeloid leukemia	2	10,025	2	9,592	0.957 (0.135–6.793)	0.965

GLP-1 RA, glucagon-like peptide-1 receptor agonist; DM, diabetes mellitus; IRR, incidence rate ratio; CI, confidence interval; CNS, central nervous system.