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Supplementary Table S1. Hypothesized initiators and promoters of helminth parasite-induced

419 malignancy.

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> <sup>a</sup>Initiation/ promotion/ Refs **Opisthorchis** Schistosoma viverrinihaematobium-induced progression induce CCA SCC  $+^{b}$ Excretions/ secretions of [6, 79, 80] + parasites Parasite eggs ? [23, 25, 44] Granulin ? [79] + Thioredoxin +[81] [23, 25, 44] ROS/RNS + + Parasite associated microbiota ? [38, 39, 82] Helicobacter + [35-38] Catechol-estrogens [30, 48, 50, +59, 64] ? Oxysterols [29, 30]

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424 425 Interleukin 6

<sup>b</sup> +, involved in the carcinogenesis; -, not thought to be involved in carcinogenesis; <sup>?</sup>, unclear if plays a role in carcinogenesis

+

+

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[17, 83]

<sup>&</sup>lt;sup>a</sup> Non-inclusive list.