



Supplementary Figure 1. | Enrichment of BCC sample across traits or diseases. We obtained a heatmap showing the enrichment of different cell types in BCC sample across traits or diseases through the "Analyzing variant-to-function mapping" analysis function (Table 1). BCC disease was found to be enriched in tumor cells, and the associated lymphocyte traits were correspondingly enriched in lymphocytes.

Table 1. | Trait or disease information.

Trait ID	Trait abbreviation	Trait description
trait_id_48	Lym	Lymphocyte
trait_id_894	BCCCEAC_F900139	Basal cell carcinoma (controls excluding all cancers)
trait_id_895	BCCICEAC_F900140	Basal cell carcinoma, including avohilmo (controls excluding all cancers)
trait_id_897	BCCM_GCST90137411	Basal cell carcinoma (MTAG)
trait_id_899	BCC_GD09640	Basal cell carcinoma
trait_id_1494	CCSRBC_FG03834	Cancer code, self-reported: basal cell carcinoma
trait_id_1495	CCSRBC_MR10820	Cancer code, self-reported: basal cell carcinoma
trait_id_1496	CCSRBC_PE00176	Cancer code, self-reported: basal cell carcinoma
trait_id_2448	CRHOCTBCCN_GA475	Cancer register - Histology of cancer tumour: Basal cell carcinoma, NOS
trait_id_6118	LC_AT689	Lymphocyte count
trait_id_8687	OCRORUBCCB_PE01229	Operation code: removal of rodent ulcer / basal cell carcinoma (bcc)
trait_id_14561	C3_BASAL_CELL_CARCCINOMA_EXALLC	Basal cell carcinoma (controls excluding all cancers)
trait_id_15763	Lym	Lymphocyte count