but whether and how selective epigenetic inhibition counteracts the immune-excluded phenotype to sensitize ICB therapy remain incompletely defined. Here, we aimed to investigate the therapeutic efficacy and mechanistic basis of histone deacetylase 8 (HDAC8), a histone H3 lysine 27 (H3K27)-specific isoform, in HCC development and ICB responsiveness.

**Methods** The immune-modulatory and anti-tumor effects of HDAC8 inhibition via a HDAC8-selective inhibitor, PCI34051, were determined in orthotopic HCC mouse models. Molecular mechanisms and functional significance of HDAC8 inhibition were conducted by genome-wide H3K27ac ChIP-seq and RNAseq in HCC patient specimens, cancer cell lines, NOD-SCID and humanized mouse models. The efficacy of single or combined therapy with anti-programmed death-1-ligand-1 (anti-PD-L1) and PCI34051 was determined in orthotopic and spontaneous HCC mouse models.

**Results** Pharmacological inhibition of HDAC8 thwarted HCC tumorigenicity in immunocompetent but not immunodeficient mice. The tumor-suppressive effect of PCI34051 was abrogated by CD8+ T cell depletion or regulatory T cell adoptive transfer. Chromatin profiling of human HDAC8-expressing HCCs revealed genome-wide H3K27 deacetylation in 1,251 silenced enhancer-target gene pairs that were enriched in metabolic and immune regulators. Mechanistically, down-regulation of HDAC8 increased global and enhancer levels of H3K27 acetylation to reactivate T cell-trafficking chemokine production from HCC cells, thus relieving T cell exclusion in both NOD-SCID and humanized mouse models. In the HCC preclinical model, selective HDAC8 inhibition significantly increased tumor-infiltrating CD8+ T cells and potentiated eradication of established hepatoma by anti-PD-L1 therapy without a sign of toxicity. Importantly, mice treated with HDAC8/PD-L1 co-blockade were protected against subsequent tumor re-challenge with the induction of memory T cells and remained tumor-free for ≥15 months.

**Conclusions** Our study demonstrates that selective HDAC8 inhibition elicits effective and durable ICB responses by co-opting adaptive immunity via enhancer reprogramming, thereby providing a new strategy for effective combined epigenetic immunotherapy.

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**IDDF2020-ABS-0014 COMPARISON OF THE EFFICACY OF PoviDOnE-IODINE AND NORMAL SALINE WASH IN PREVENTING SURGICAL SITE INFECTIONS IN LAPAROTOMY WOUNDS-RANDOMIZED CONTROLLED TRIAL**

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**Background** Povidone-Iodine has been utilized as a broad-spectrum antiseptic irrigation in the wound management processes for many years. However, some recent studies showed that the infection rate in laparotomy wounds decreases more by using normal saline.

**Methods** The patients undergoing elective laparotomies were included and randomly assigned to 2 groups. In the first group (90), incision wounds were flushed with 5% povidone-iodine solution. In the second group (90), incisions were flushed with 0.9% normal saline solution. By comparing the infection rates of the wound, outcomes were measured between the two groups.

**Results** Surgical site infections were seen in 16 of 180 (12.5%) patients in povidone-iodine versus 7 in normal saline groups. The difference in the infection rates in the two studied groups (p = 0.6) has no statistical significance.

**Conclusions** The infection rate in laparotomy wounds did not increase or decrease when the wound was irrigated with 5% povidone-iodine solution or with 0.9% saline solution.