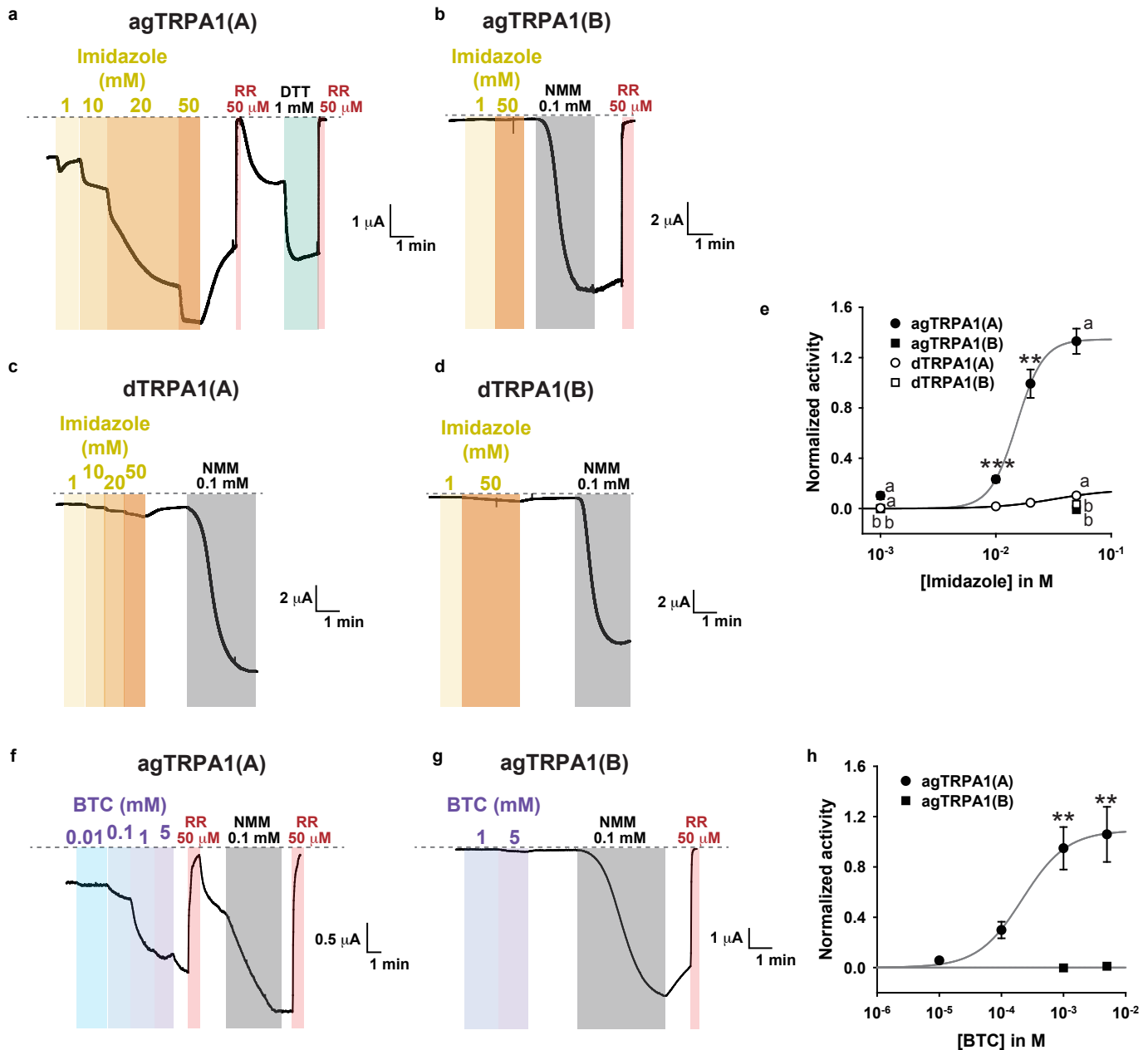


## Figure 5-figure supplement 2



**Figure 5-figure supplement 2: Nucleophiles other than DTT preferentially activate TRPA1(A) over TRPA1(B).** (a-d) Representative current traces from *Xenopus* oocytes expressing indicated TRPA1 isoforms upon application of increasing imidazole concentrations (voltage-clamped at -60 mV). Imidazole is the nucleophilic side chain of histidine, four of which form coordinate bonds with oxygen-binding  $\text{Fe}^{2+}$  in the heme. (e) Imidazole dose dependences of indicated TRPA1 channels (n=3-5). (f-g) Typical current recordings from cells expressing agTRPA1 isoforms in response to benzyl thiocyanate (BTC). BTC is a naturally occurring plant nucleophile, while its isosteric compound benzyl isothiocyanate (BITC) activates TRPA1s by its electrophilicity (Hinman *et al* PNAS 2006). (h) BTC dose dependences of agTRPA1s (n=5-12). The agTRPA1(A) isoform is dramatically more sensitive to the nucleophile BTC than agTRPA1(B). Letters indicate statistically distinct groups. ANOVA Dunn's test for comparison between three or more groups. \*\*: p<0.01, \*\*\*: p<0.001. Student's t- or Mann-Whitney U tests between two groups.