Upregulation of Human Prostaglandin Reductase 1 (PTGR1) Improves Efficacy of Hydroxymethylacylfulvene, an Anti-tumor Chemotherapeutic Agent

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Supplemental Figure 1. Primary sequence comparison of rPTGR1 and hPTGR1. The identical amino acids (83%) are represented in blue and categorically similar substitutions are denoted as "+". The conserved NADPH binding motif is marked green.

Supplemental Figure 2. Expression and purification of recombinant FLAG-tagged hPTGR1. hPTGR1 was PCR cloned and ligated to pFLAG plasmid. The expression was performed in HEK293 cells and PTGR1 was affinity-purified from whole cell lysate. Lane 1-4 on the left panel indicates the input, pre-and post-incubation with FLAG antibody resin and first wash, respectively. Elution fraction 1 and 2 were immunoblotted against PTGR1 and FLAG antibody, respectively. Coomassie staining demonstrates that purity of the recombinant PTGR1 is high.

Supplemental Figure 3 Immunoblots of hPTGR1 in HCT15 transfected with pCep4-GFP or pCep4-hPTGR1 (a); SW620 and HepG2 cells treated with 20 μM D3T (b).

Supplemental Figure 4 Immunoblots of hPTGR1 in HepG2 and SW620 cells treated with 20 μM D3T, 10, 20 μM curcumin or 15, 40 μM resveratrol.

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human:   1 MVRTKTWTLKKHFVGYPTNSDFELKTSELPPLKNGEVLLEALFLTVDPYMRVAAKRLKEG
           MV+ KTWTLKKHF G+PT+S+FEL+T+ELPPL NGEVLLEALFL+VDPYMRVAAK+LKEG
rat:     1 MVQAKTWTLKKHFEGFPTDSNFELRTTELPPLNNGEVLLEALFLSVDPYMRVAAKKLKEG

human:  61 DTMMGQQVAKVVESKNVALPKGTIVLASPGWTTHSISDGKDLEKLLTEWPDTIPLSLALG
           D+MMG+QVA+VVESKN A P GTIV+A  GWT+HSISDG  L KL  EWPD +PLSLALG
rat:    61 DSMMGEQVARVVESKNSAFPTGTIVVALLGWTSHSISDGNGLRKLPAEWPDKLPLSLALG

human: 121 TVGMPGLTAYFGLLEICGVKGGETVMVNAAAGAVGSVVGQIAKLKGCKVVGAVGSDEKVA
           TVGMPGLTAYFGLL+ICG+KGGETV VNAAAGAVGSVVGQIAKLKGCKVVG  GSDEKVA
rat:   121 TVGMPGLTAYFGLLDICGLKGGETVLVNAAAGAVGSVVGQIAKLKGCKVVGTAGSDEKVA

human: 181 YLQKLGFDVVFNYKTVESLEETLKKASPDGYDCYFDNVGGEFSNTVIGQMKKFGRIAICG
           YL+KLGFDV FNYKTV+SLEE L+ ASPDGYDCYFDNVGGEFSNTVI QMK FGRIAICG
rat:   181 YLKKLGFDVAFNYKTVKSLEEALRTASPDGYDCYFDNVGGEFSNTVILQMKTFGRIAICG

human: 241 AISTYNRTGPLPPGPPPEIVIYQELRMEAFVVYRWQGDARQKALKDLLKWVLEGKIQYKE
           AIS YNRTGP PPGP PE++IYQ+LRME F+V RWQG+ RQKAL DL+ WV EGKI+Y E
rat:   241 AISQYNRTGPCPPGPSPEVIIYQQLRMEGFIVTRWQGEVRQKALTDLMNWVSEGKIRYHE

human: 301 YIIEGFENMPAAFMGMLKGDNLGKTIVKA 329
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rat:   301 YITEGFEKMPAAFMGMLKGDNLGKTIVKA 329
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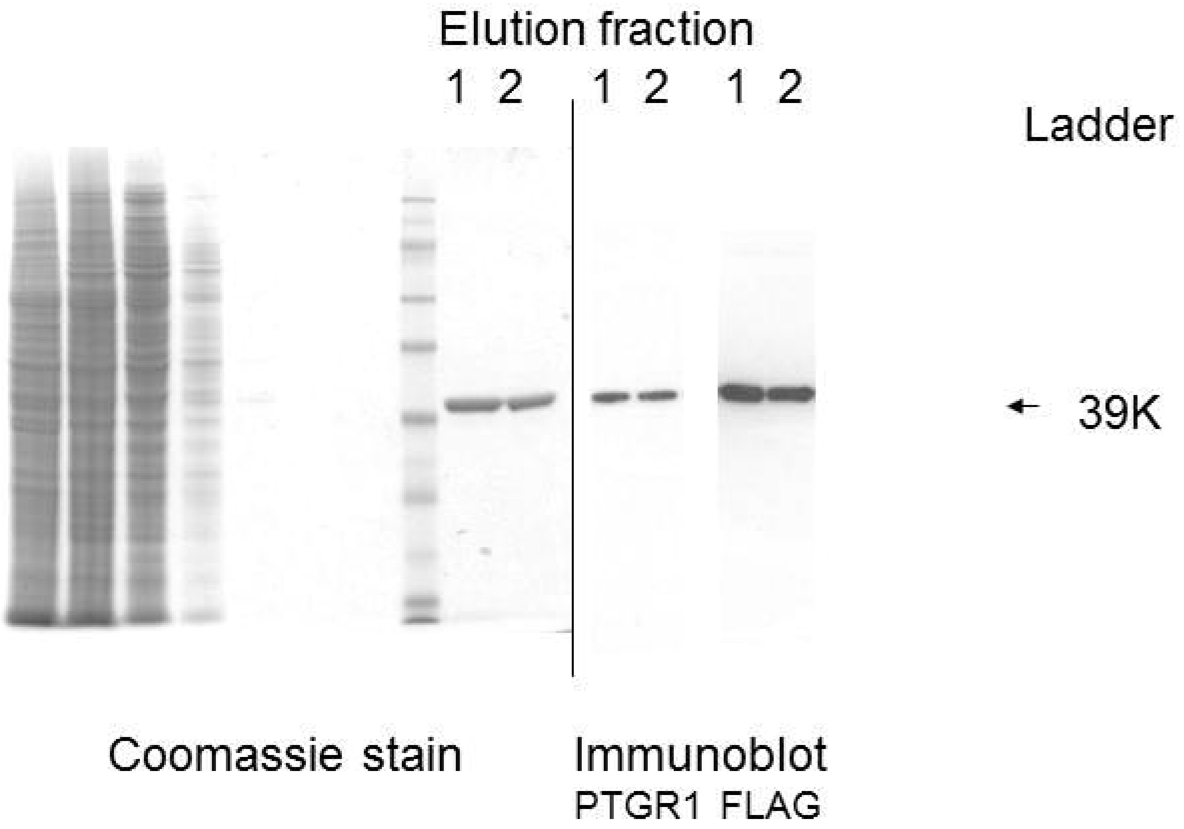
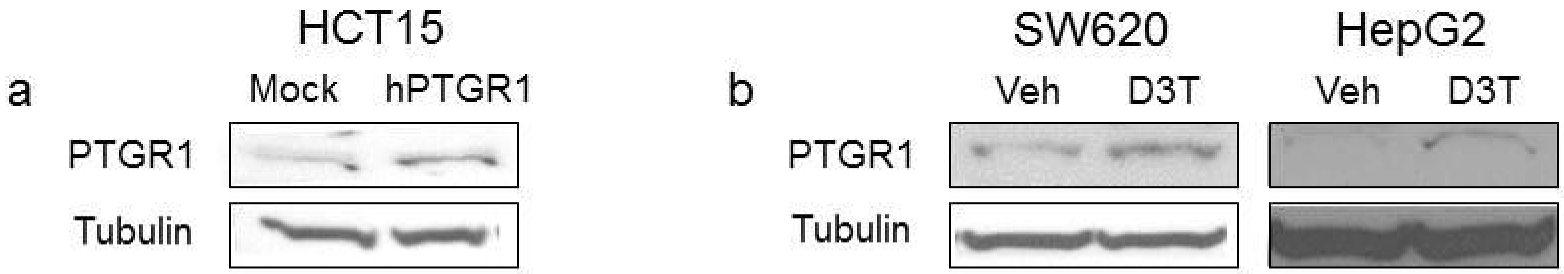
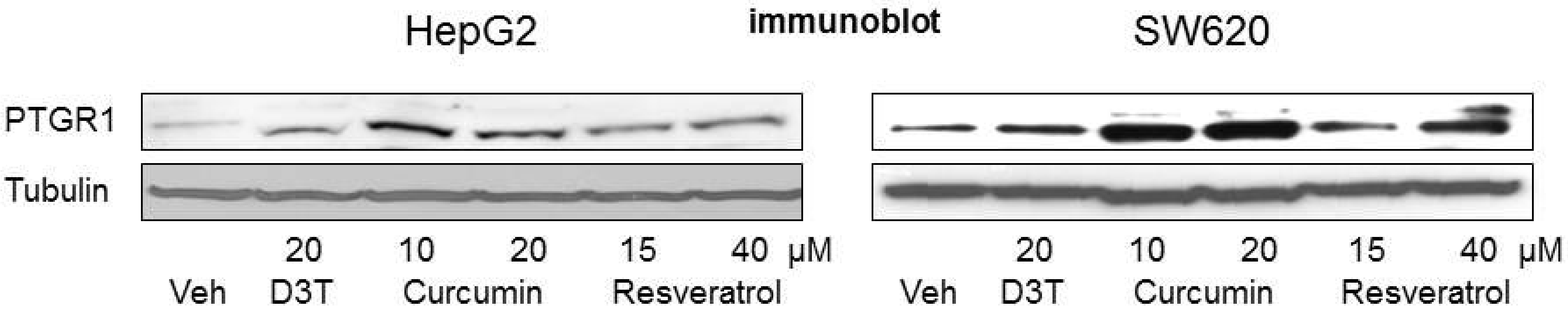
Supplemental Figure 1



Supplemental Figure 2



Supplemental Figure 3



Supplemental Figure 4