

human DRG total RNA
 ↓ RT-PCR/Cloning
 human TRPV1 & human TRPA1 cDNA
 ↓ Flp-In Mammalian Expression System
 Stable Transformsants
 Highly Expressing human TRPV1 & human TRPA1

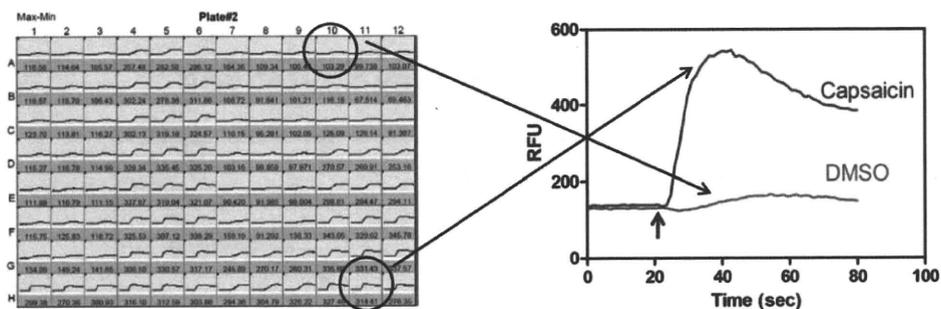


Fig. 3 High-throughput assay for TRP activation.

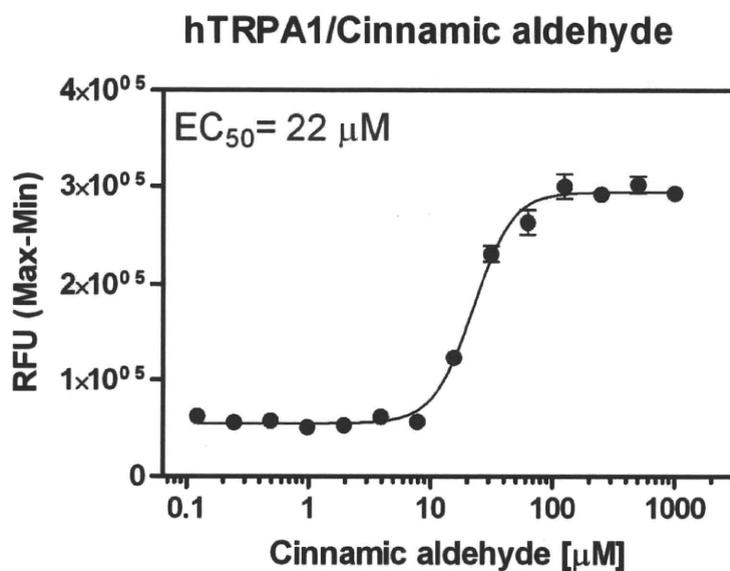
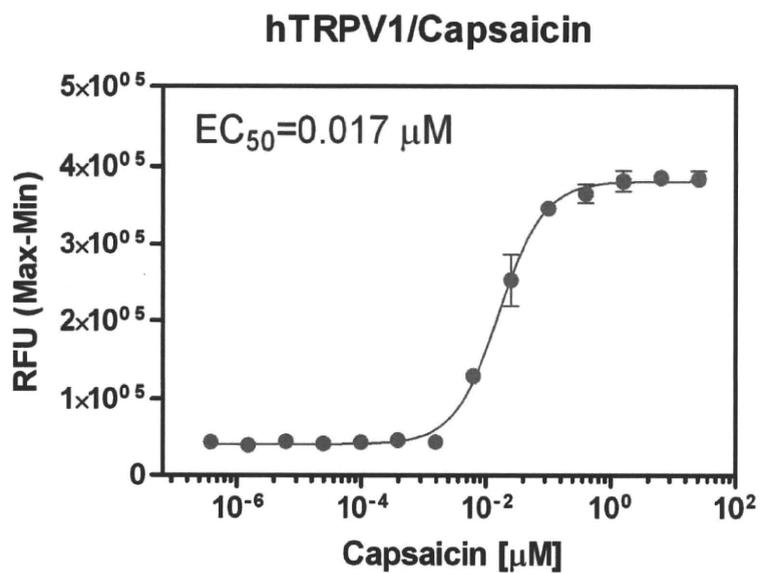


Fig. 4 Dose-response analysis of TRP ion channels activation by typical agonist.

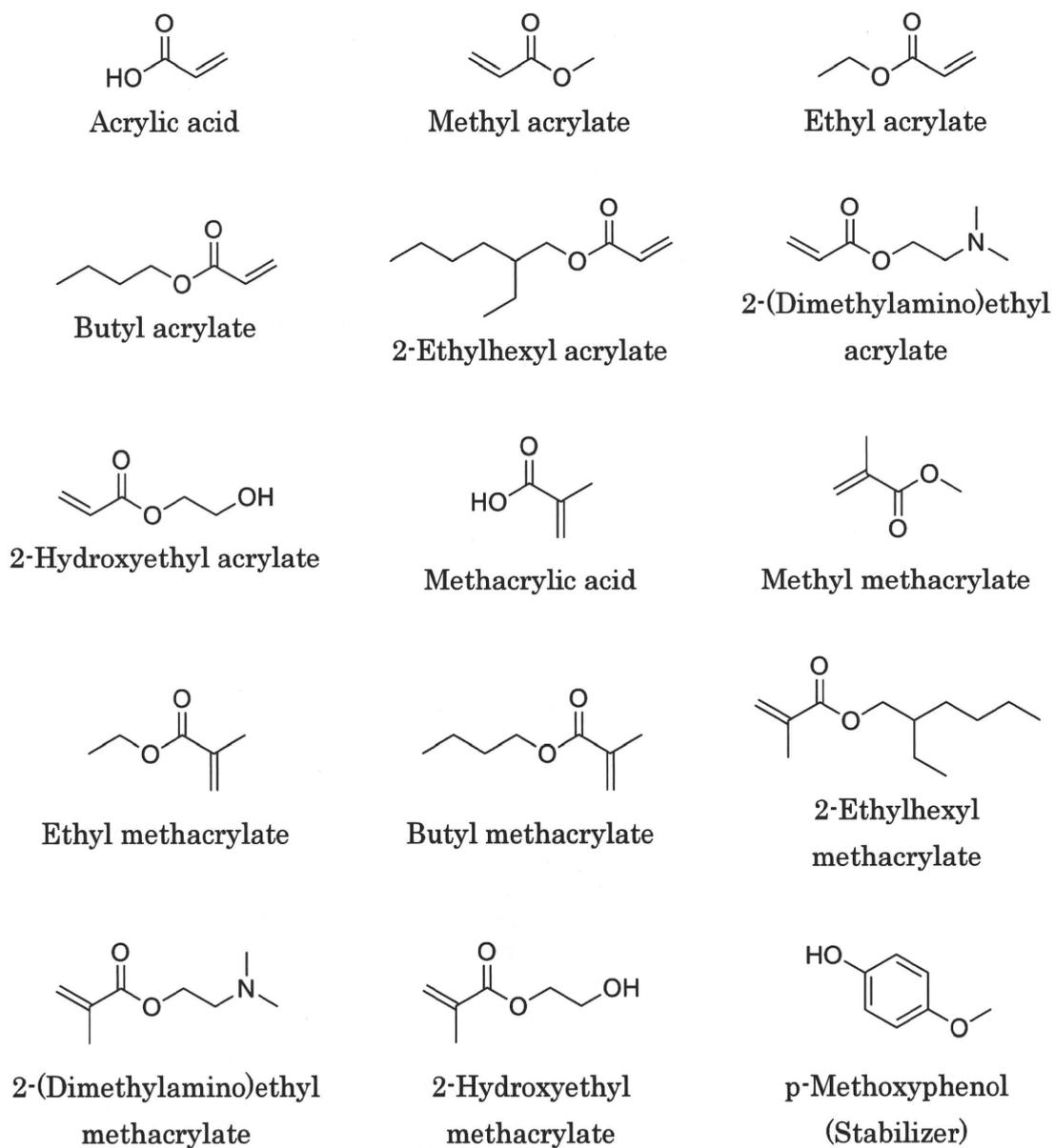


Fig. 5 Chemical structures of acrylates/methacrylate and its esters in this study.

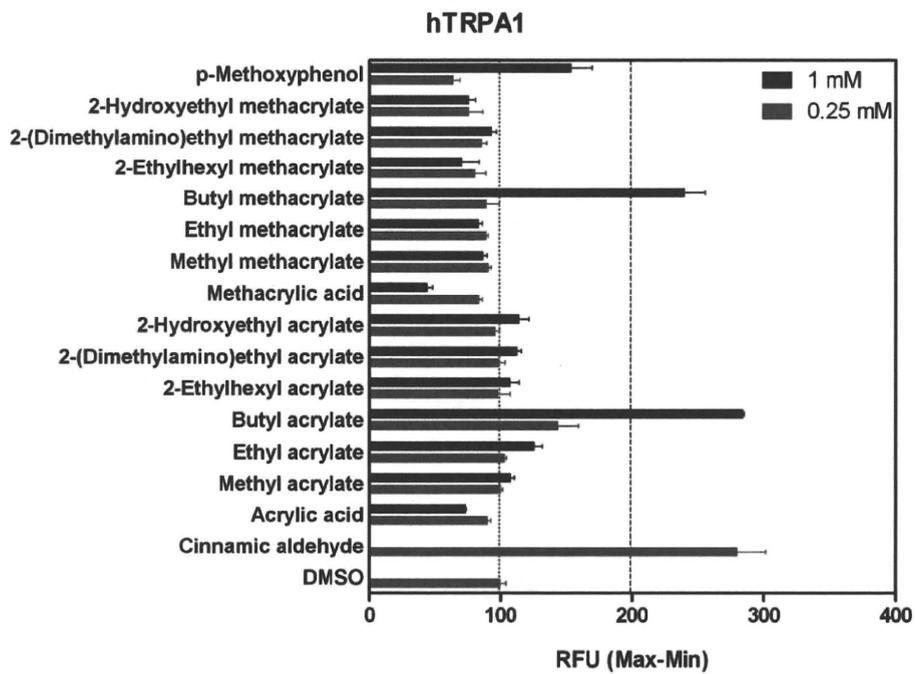
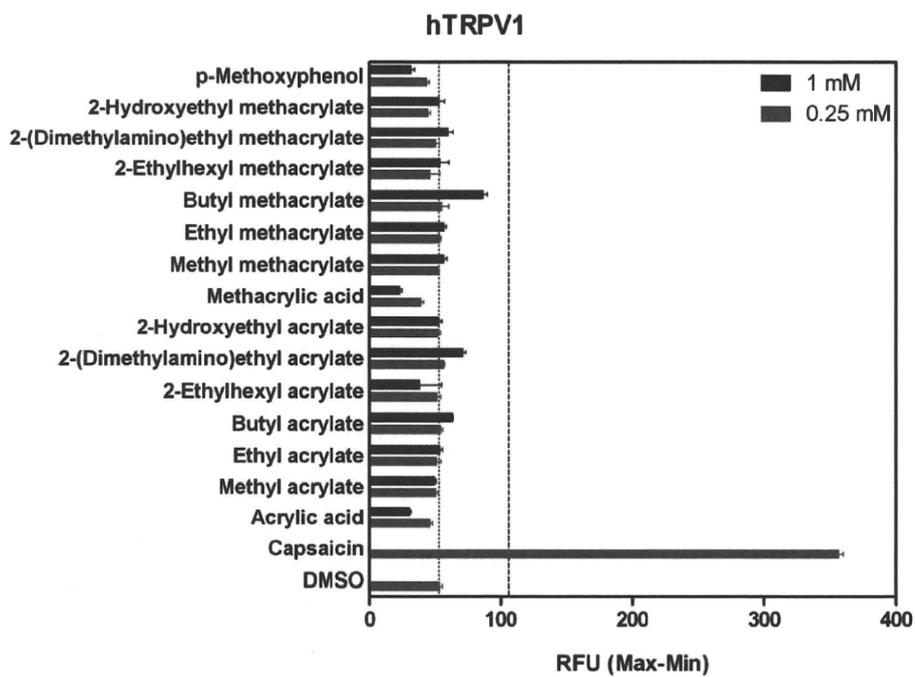


Fig. 6 Activation of human TRPV1 and TRPA1 by acrylates/methacrylate and its esters.

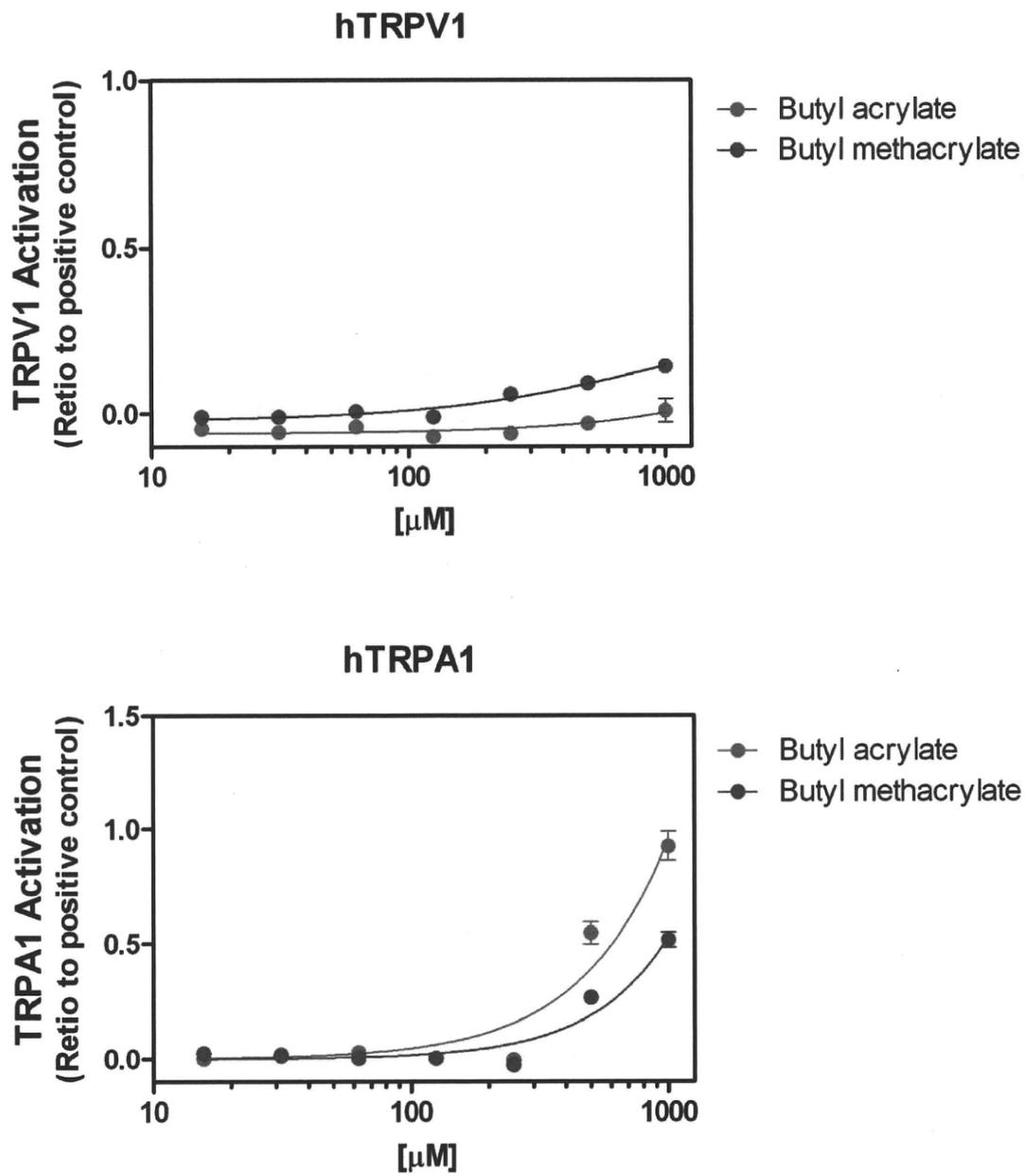
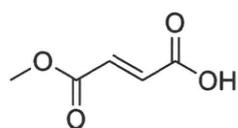
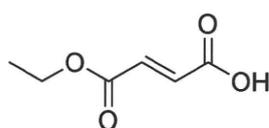


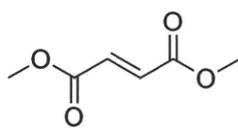
Fig. 7 Dose-response analysis of human TRPV1 and TRPA1 activation by acrylates/methacrylate and its esters.



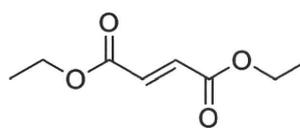
Monomethyl fumarate



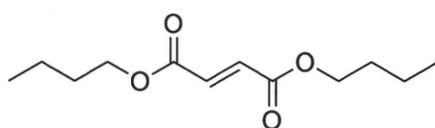
Monoethyl fumarate



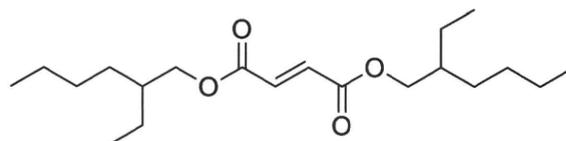
Dimethyl fumarate



Diethyl fumarate



Dibutyl fumarate



Bis(2-ethylhexyl) fumarate

Fig. 8 Chemical structures of fumarate esters in this study.

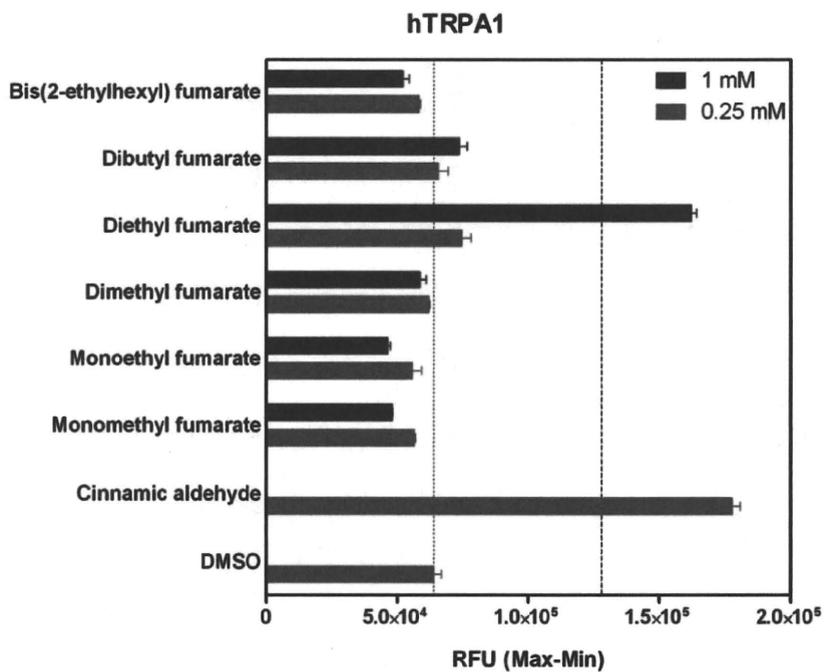
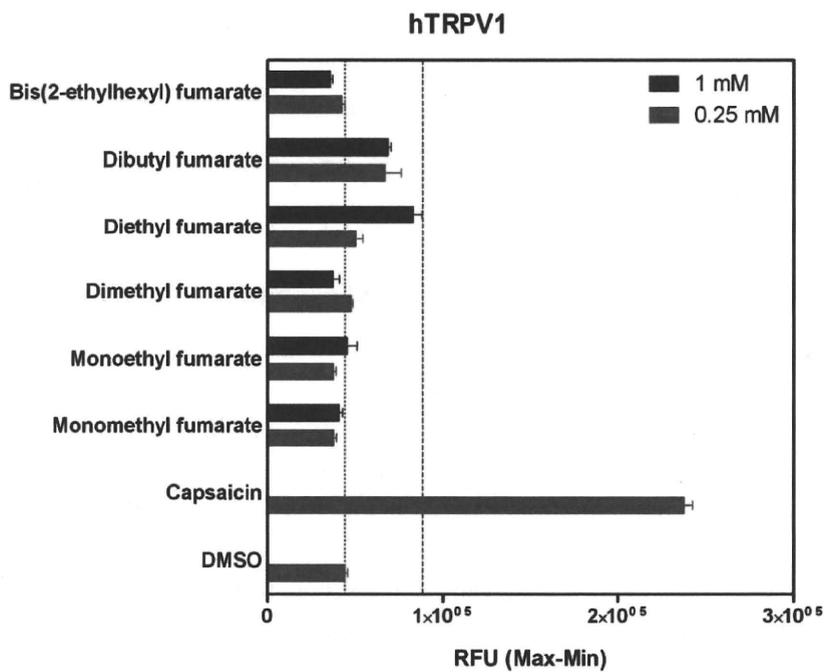


Fig. 9 Activation of human TRPV1 and TRPA1 by fumarate esters.

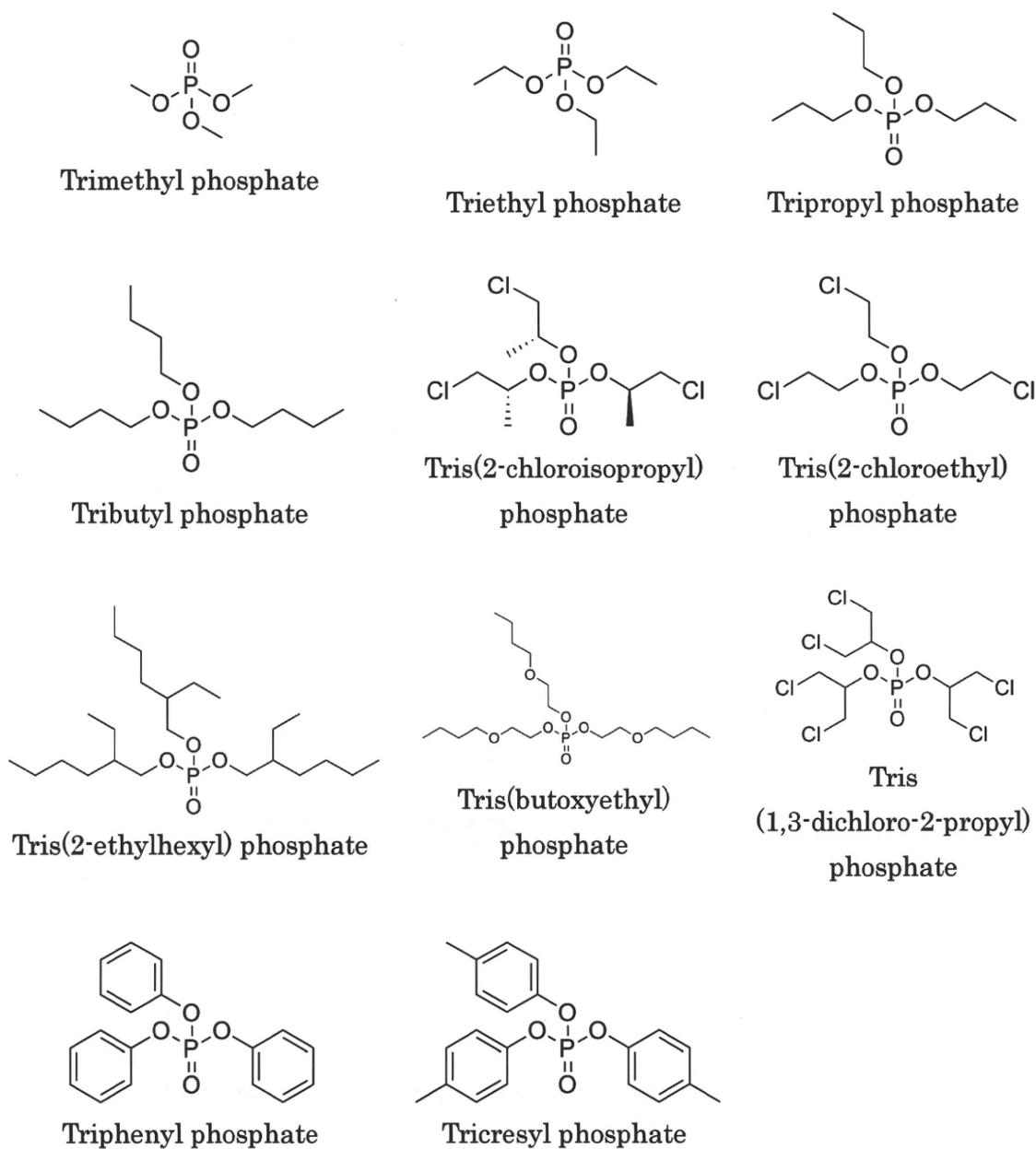


Fig. 10 Chemical structures of phosphate triesters in this study.

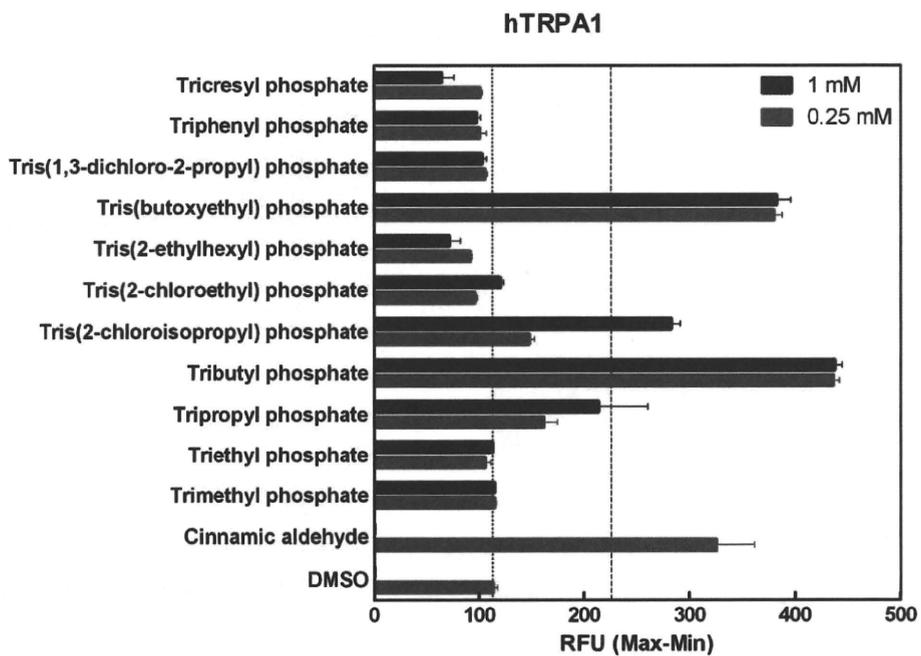
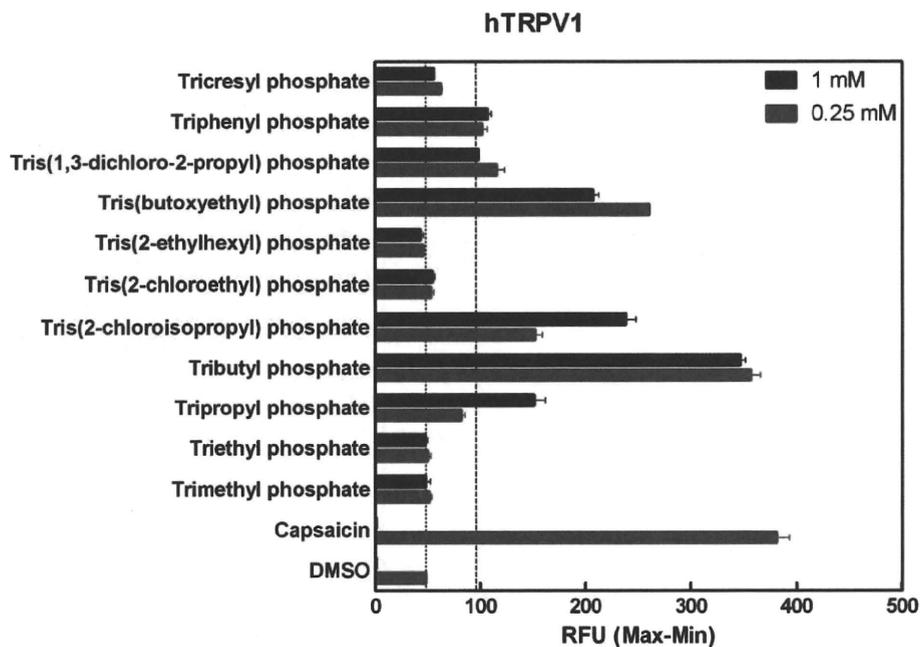


Fig. 11 Activation of human TRPV1 and TRPA1 by phosphate triesters.

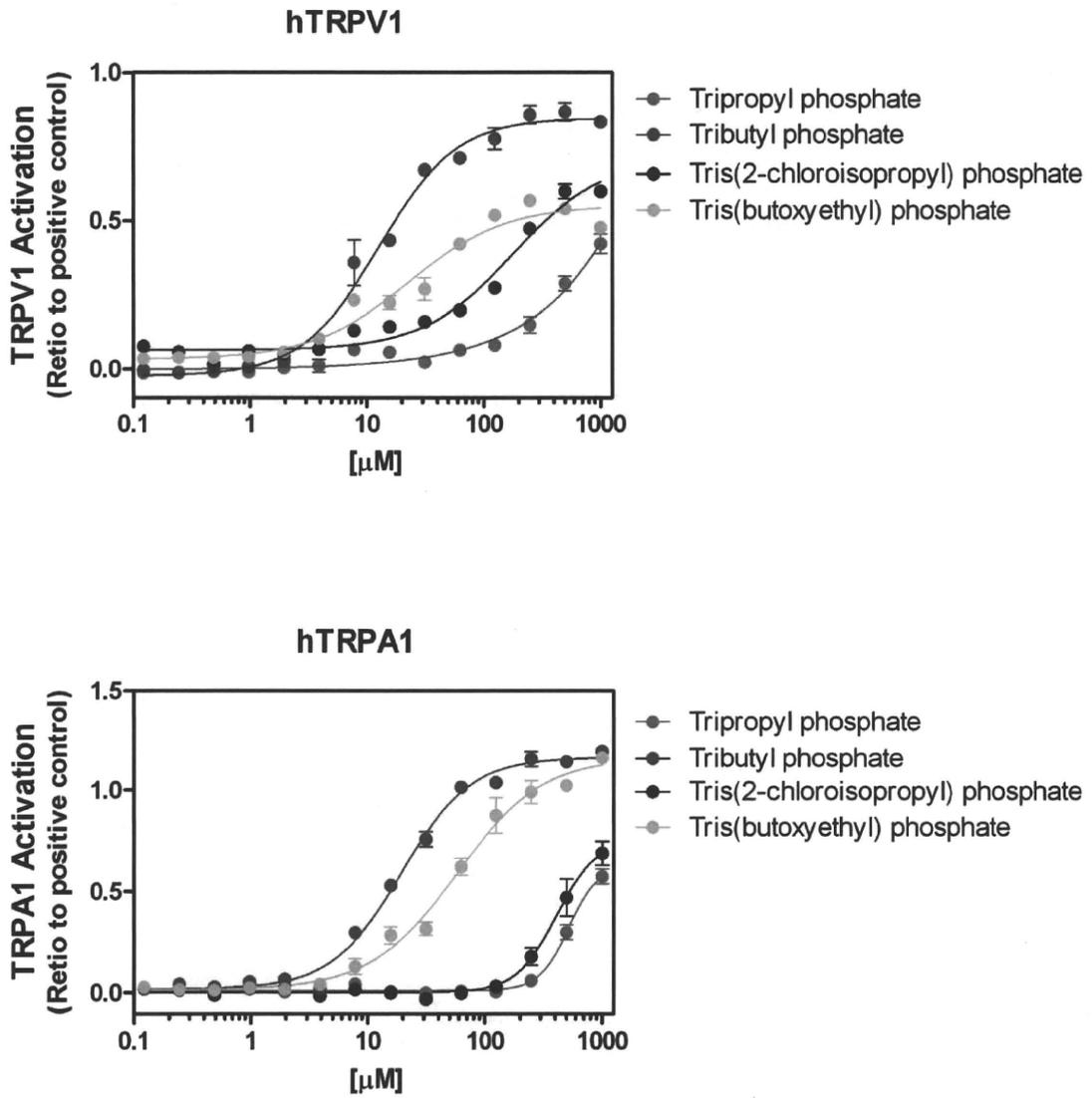


Fig. 12 Dose-response analysis of human TRPV1 and TRPA1 activation by phosphate triesters.

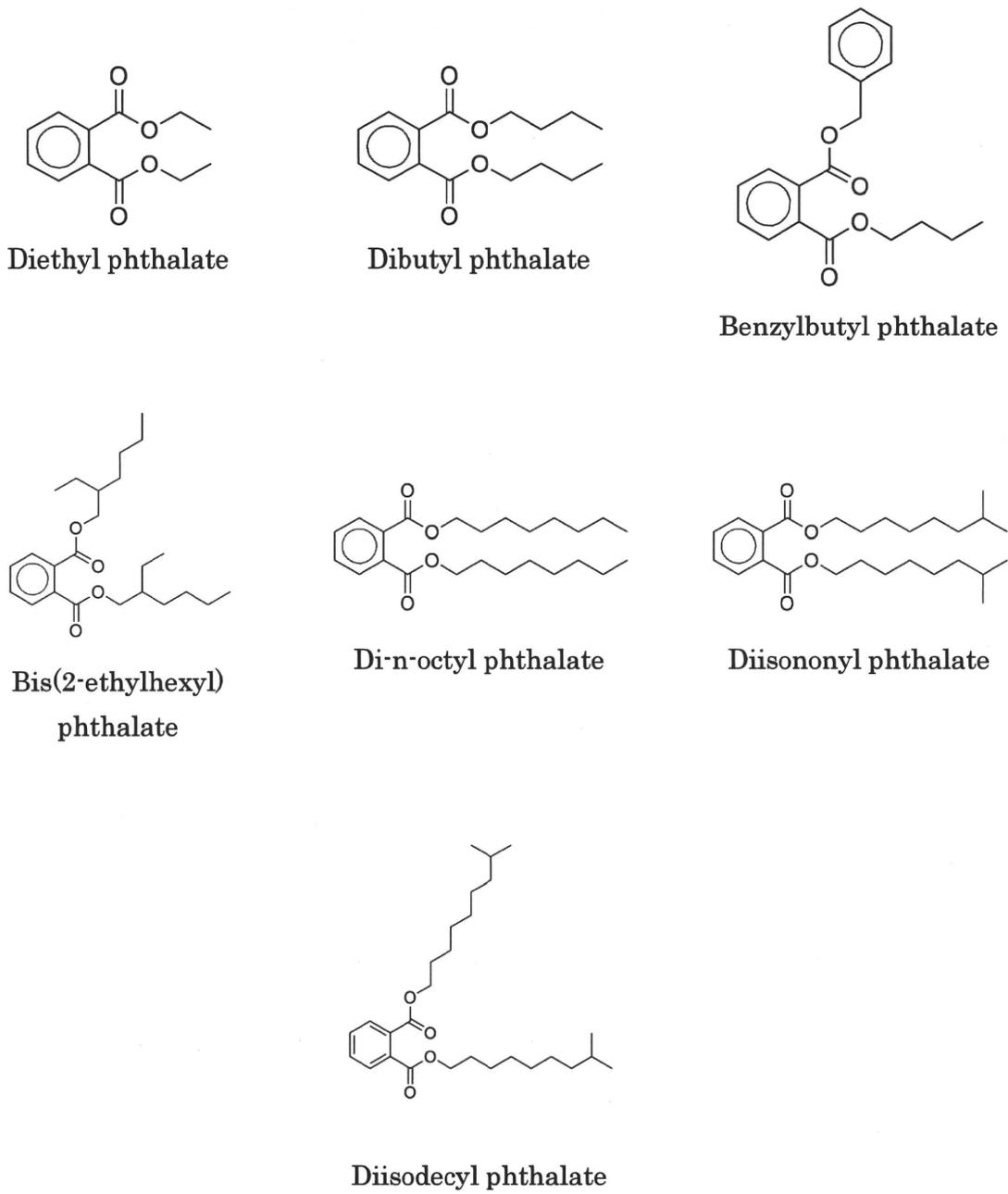
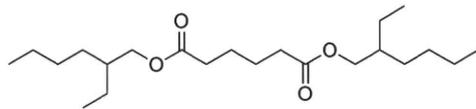
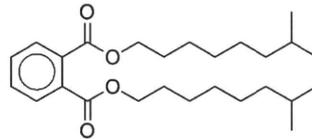


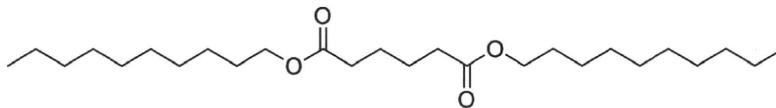
Fig. 13-1 Chemical structures of phthalate/adipate esters and its metabolites in this study.



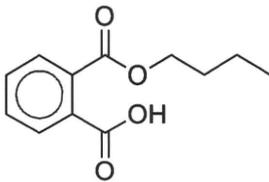
Bis(2-ethylhexyl) adipate



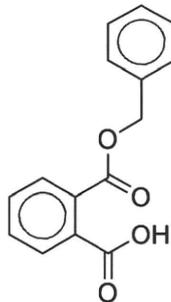
Diisononyl adipate



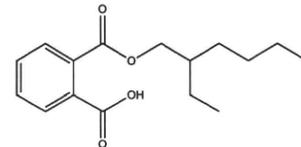
Diisodecyl adipate



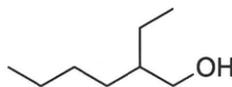
Monobutyl phthalate



Monobenzyl phthalate



**Monoethylhexyl
phthalate**



2-Ethyl-1-hexanol

Fig. 13-2 Chemical structures of phthalate/adipate esters and its metabolites in this study.

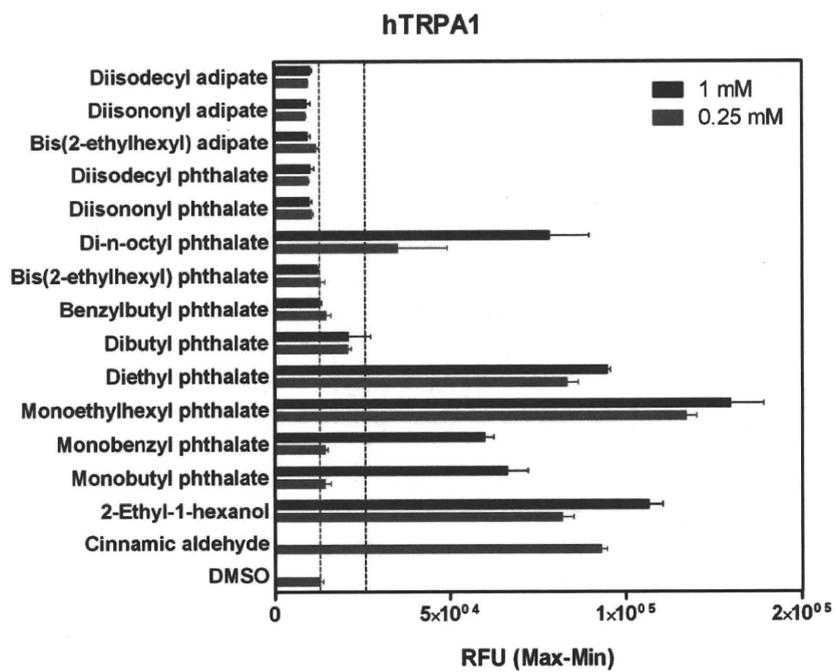
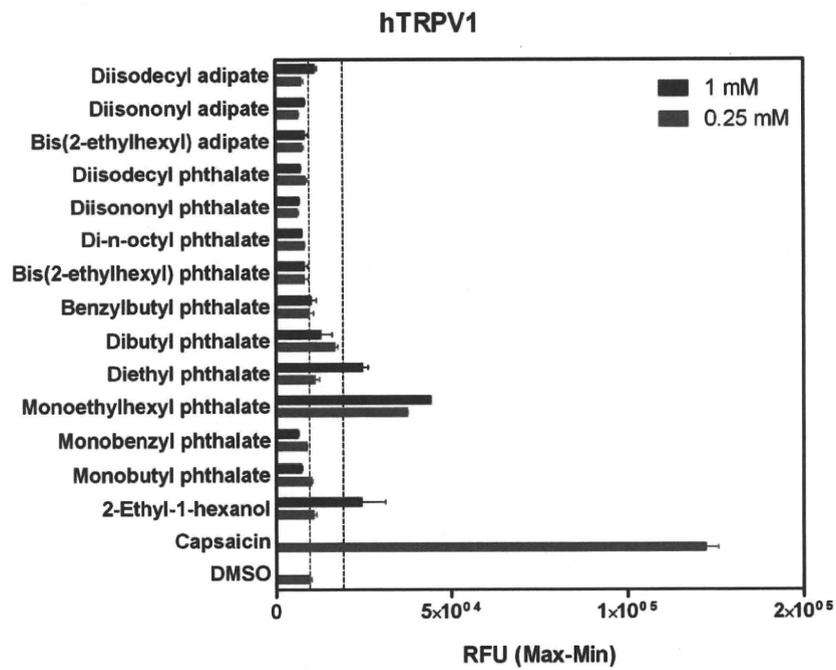
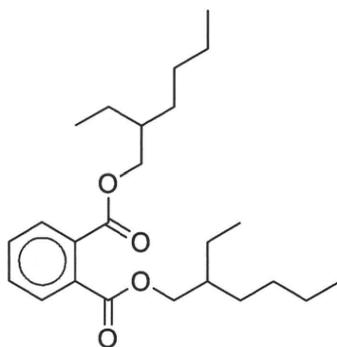
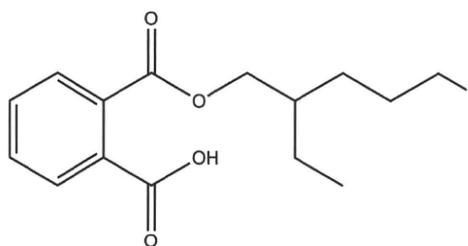
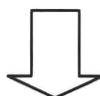


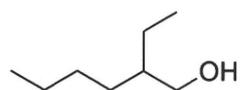
Fig. 14 Activation of human TRPV1 and TRPA1 by phthalate/adipate esters and its metabolites.



Bis(2-ethylhexyl) phthalate

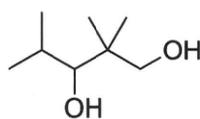


Monoethylhexyl phthalate(MEHP)

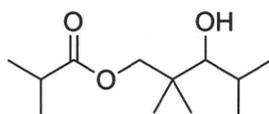


2-Ethyl 1-hexanol

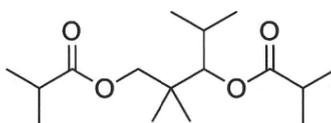
Fig. 15 Hydrolysis of bis(2-ethylhexyl) phthalate.



2,2,4-Trimethyl-1,3-pentanediol



Trimethyl-1,3-pentanediol monoisobutyrate; Texanol



2,2,4-Trimethyl-1,3-pentanediol diisobutyrate; TXIB

Fig. 16 Chemical structures of Texanol and TXIB.

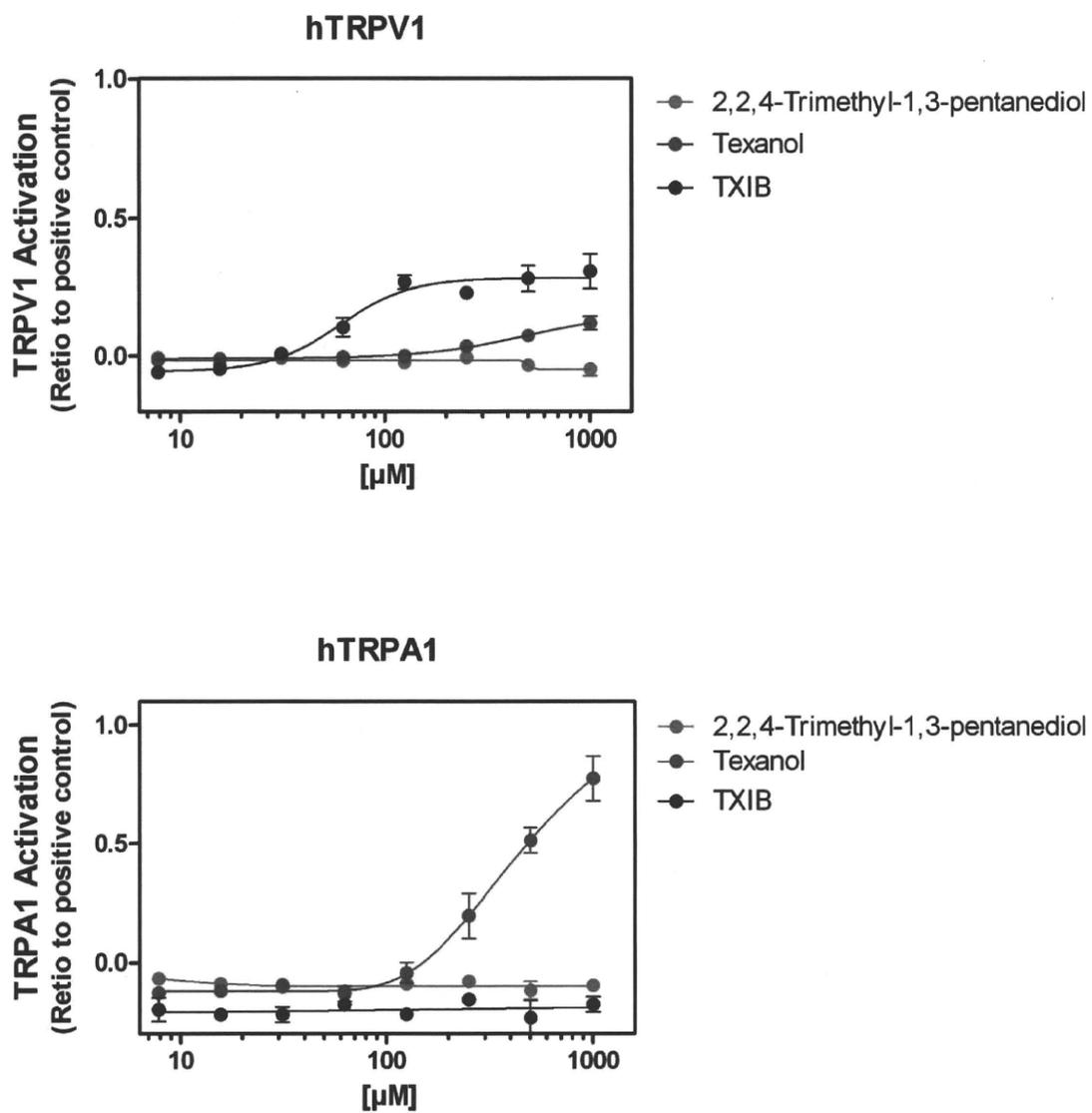


Fig. 17 Dose-response analysis of human TRPV1 and TRPA1 activation by Texanol and TXIB.

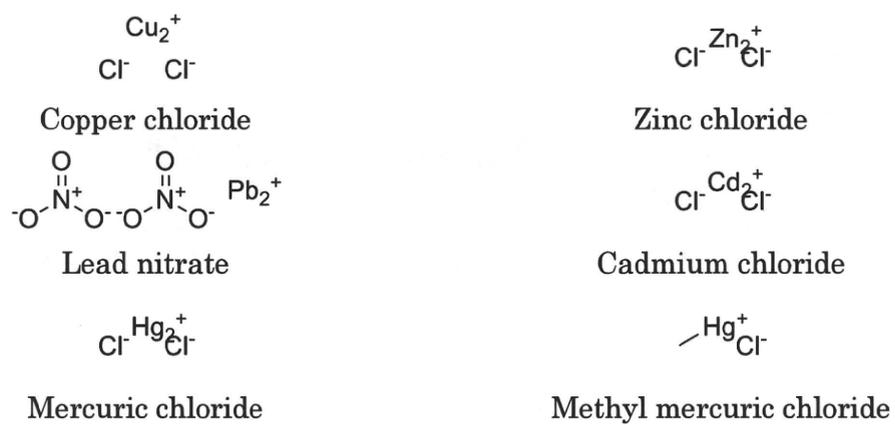


Fig. 18 Chemical structures of metal compounds in this study.

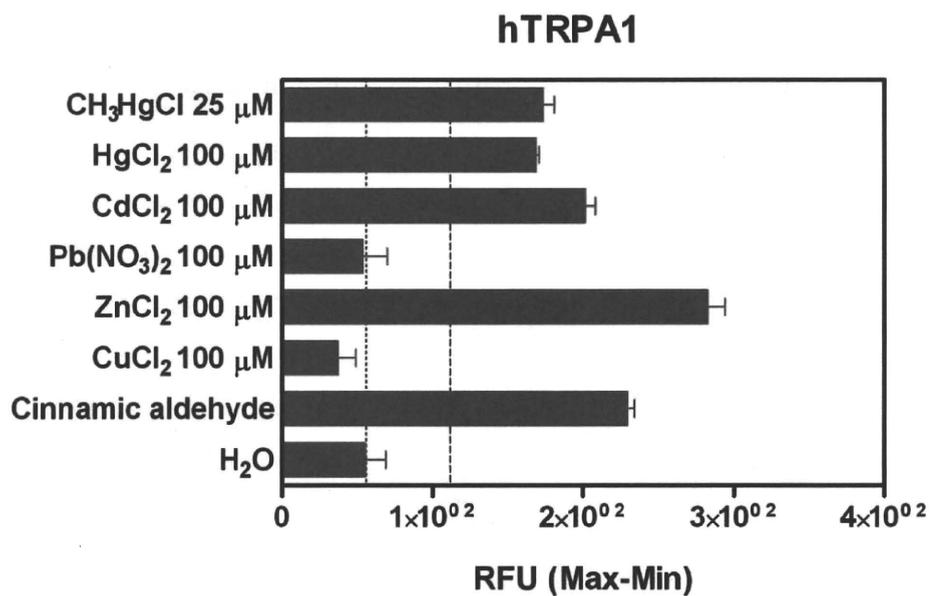
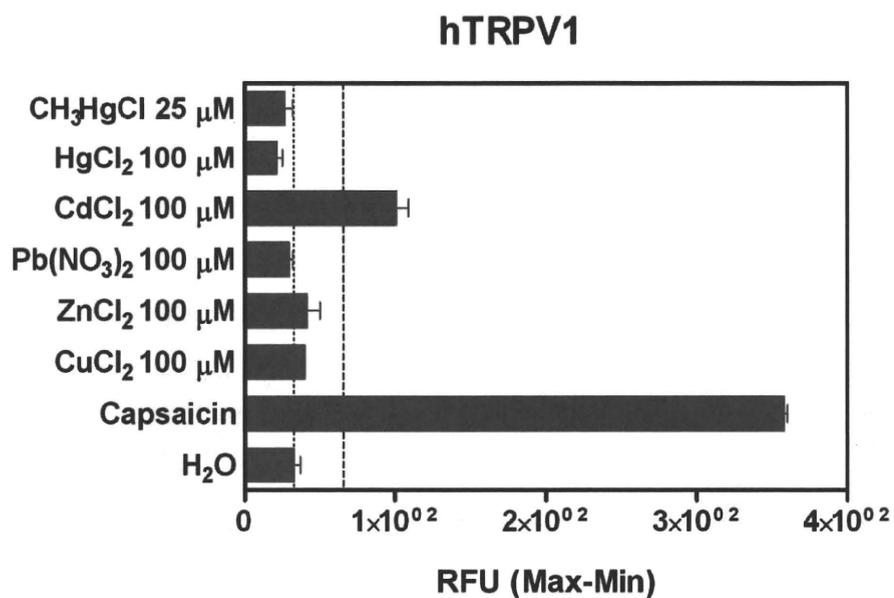
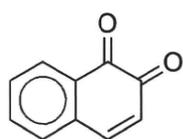
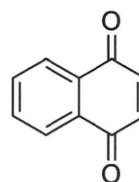


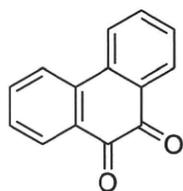
Fig. 19 Activation of human TRPV1 and TRPA1 by metal compounds.



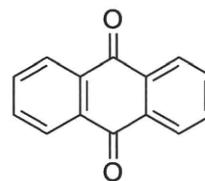
1,2-Naphthoquinone



1,4-Naphthoquinone



9,10-Phenanthrenequinone



Anthraquinone

Fig. 20 Chemical structures of naphthoquinones in this study.

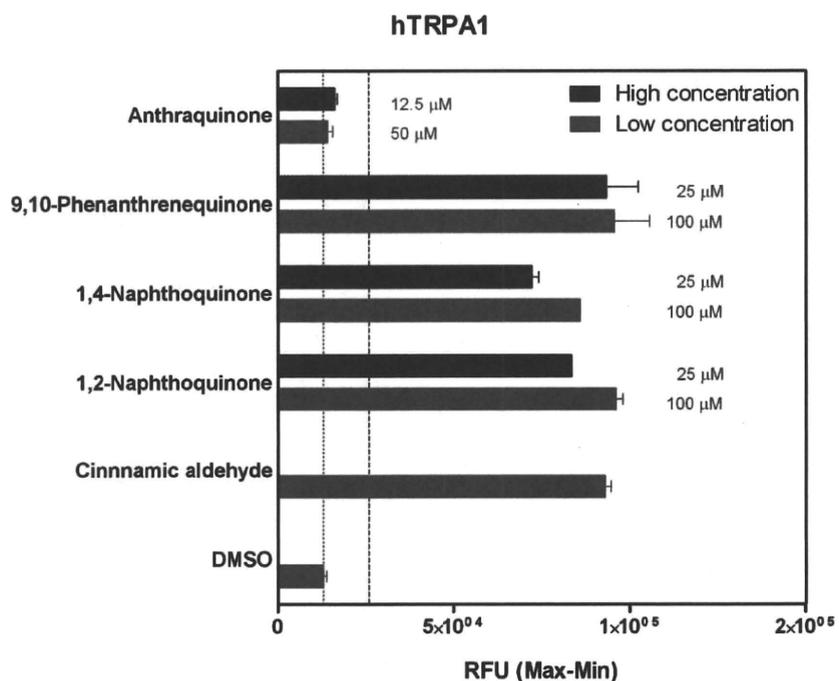
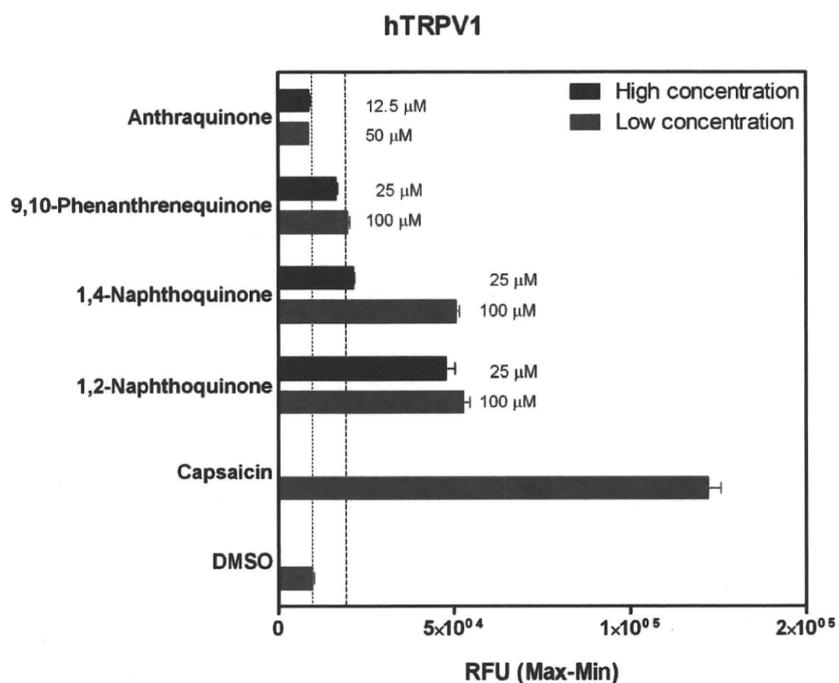


Fig. 21 Activation of human TRPV1 and TRPA1 by naphthoquinones.