

Appendix Table A2. A Selection of "Target-Action Pairs," Each with MAF_W >0.001 and <5% Genotype Missingness for at Least One Single-Nucleotide Polymorphism/Single Nucleotide Variant from the ExomeChip

Target	Mechanism of action	Small molecule	Current indication(s)	Marketing start date
Muscarinic acetylcholine receptor M1	Antagonist	Dicyclomine	IBS, colicky abdominal pain, diverticulitis	November 5, 1950
	Antagonist	Cyclopentolate	Mydriasis and cycloplegia (for diagnostic purposes)	June 30, 1958
	Antagonist	Glycopyrronium	Salivary, tracheobronchial, and pharyngeal secretions, acid reflux, cardiac vagal inhibitory reflexes during induction of anesthesia and intubation, COPD	March 28, 1961
	Antagonist	Scopolamine	Colicky abdominal pain, bradycardia, sialorrhea, diverticulitis, IBS, motion sickness	January 1, 1966
	Antagonist	Clidinium	Peptic ulcer disease, colicky abdominal pain, diverticulitis, IBS	September 1, 1966
	Antagonist	Propantheline	Enuresis, hyperhidrosis, abdominal spasm, bladder spasm	December 14, 1981
	Antagonist	Pirenzepine	Peptic ulcer, gastric ulcer, and duodenal ulcer.	December 31, 1984
	Antagonist	Trihexyphenidyl	Parkinson's disease, extrapyramidal reactions	November 1, 1987
Tyrosine-protein kinase BTK	Inhibitor	Acalabrutinib	Mantle cell lymphoma	October 31, 2017
	Inhibitor	Ibrutinib	Mantle cell lymphoma, chronic lymphocytic leukemia, Waldenstrom's macroglobulinemia	November 7, 2013
Prostaglandin F2-alpha receptor	Agonist	Tafluprost	Elevated intraocular pressure	February 10, 2012
	Agonist	Travoprost		October 20, 2006
	Agonist	Latanoprost		March 20, 1995
	Agonist	Dinoprost tromethamine	Abortion of second-trimester pregnancy, induction of labor, vasodilation (for diagnostic purposes)	December 31, 1974
Alpha-1A adrenergic receptor	Agonist	Tetryzoline	Minor eye irritation	November 30, 1979
	Agonist	Methoxamine	Hypotension	December 31, 1950
	Agonist	Ergonovine	Postpartum hemorrhage, postabortion hemorrhage	December 31, 1939
Alpha-1A adrenergic receptor	Antagonist	Silodosin	BPH	March 23, 2009
	Antagonist	Tamsulosin		September 12, 1997
Heat-stable enterotoxin receptor	Agonist	Linaclotide	IBS with constipation, chronic idiopathic constipation	August 30, 2012
Toll-like receptor 7	Agonist	Imiquimod	Facial actinic keratosis, genital and perianal warts	February 25, 2010
P2Y purinoceptor 12	Antagonist	Prasugrel	Atherothrombosis, MI	July 10, 2009
	Antagonist	Ticlopidine	Thrombotic stroke	July 1, 1999
	Antagonist	Clopidogrel	Atherosclerosis	January 1, 1900
Substance-P receptor	Antagonist	Netupitant	Iatrogenic emesis	October 13, 2014
	Antagonist	Aprepitant		March 26, 2003
Estrogen receptor alpha	Ligand	Synthetic conjugated estrogens, A	Postmenopausal vulvar and vaginal atrophy, vasomotor atonia	May 12, 1999
	Ligand	Synthetic conjugated estrogens, B	Postmenopausal vulvar and vaginal atrophy, vasomotor atonia, vaginal dryness	April 24, 2006

Each row gives one "target-action" pair from the 227 "pairs" available for genomic drug repurposing, with its currently associated indications.^{A4}
 BPH, benign prostatic hyperplasia; BTK, Bruton's tyrosine kinase; COPD, chronic obstructive pulmonary disease; IBS, irritable bowel syndrome; MI, myocardial infarction.