**Pharmacological Reviews** 

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## Nonhormonal male contraceptive development- Strategies for Progress

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## Supplemental Table 1. Percentage of men who will take up a male contraceptive method.

	Kenya	Nigeria	CDI	Vietnam Bangladesh		US	
1-year	53	76	62	70	76	39-49%	
Ever-use male	84	95	79	98	95	78	
Ever-use female	84	86	74	98	86	N/A*	

<sup>\*</sup>Female partner data was not fielded in the United States.

## Supplemental Table 2. The landscape of male contraceptive development.

				Source assertion and		
_		Exploring Developing Proving	-	sperm generation and Sperm Function or Motility Other	$H \mid \mid \mid \mid \mid \mid \mid$	.   .   .
INSTITUTION	SHORT DESCRIPTION OF RESEARCH, PRODUCT, TARGET, ETC	on / Rednis	Days Days	mention presist) presist) majorit ma majorit majorit majorit majorit majorit majorit majorit majorit majorit majorit majorit majorit m	br grant gr	Domestia Information Private Academi
		Andrania Andrania Antrical Antrical Created		Sperma C Sperma T Sperm T Sper	Or Dem	.
Airlangga University - Indonesia	Human studies of extracts from the plant Justicia Gendarussa	×	×		x	4 11
Entrelac coop - France	Androswitch - Wearable silicone ring for thermal contraception	х х х	x	x	x	x
Baylor College of Medicine	Genetic identification of target genes in patients with infertility	x x		x x x x		x x
Baylor College of Medicine	Large academic center with focus on discovery					
	Investigation of the chemical basis of BTB penetration	х х	x	x x x		x x
	DEC-Tec Screening platform Discovery of chemical inhibitors of BRDT	x x x x	×	×	×	x X
	Discovery of chemical inhibitors of LDHC	· ·	×	^	Ŷ	Y Y
	Discovery of chemical inhibitors of GAPDHS	x x	×	x x	x	x x
	Discovery of chemical inhibitors of TSSK3	x x	x	x	x	x x
Boston University	Human Contraceptive Antibody (HCA) - Sperm agglutinating lubricant	x x	×	×	x x	x x
Contraceptive Accelerator Network	Triptonide - A small molecule causing reversible sperm structure defects	x x	x	x	x	x x
Contraline, Inc	ADAM - A two-year degradative vas-occlusive implant	x	х	x	x	x x
Copenhagen University Hospital, Denmark	Chemical inhibition of CatSper	x x x	×	×	x	x x
Comel University	Identification of meiotic targets in sperm using genetic stagegates	x		x x		x x
COSO - Germany  Eastern Carolina University	COSO - Ultrasound-based testicular bath	х х х	×	x	х	x x
Eastern Carolina University Emory University	Identification of spermatogenic contraceptive targets	×		x		x x
Eppin Pharma	Discovery of chemical inhibitors of Juno-Izumo using nematodes EP055 - Small molecule chemical inhibition of EPPIN	x x	×	X X X	x x	X X
IRYMF - Buenos Aires Argentina	Discovery of chemical inhibitors of CatSper	x	×	* * * * * * * * * * * * * * * * * * * *	x x	
JBYME - Buenos Aires Argentina	Characterization and assay development related to CRISP1	x x	× ×	* * * *	*	X X
ITT Kharagnur / IcubedG Ideas Pvt Ltd India	RISUG - A long-acting vas-occlusive implant	^ ^	^ v		_	
Jackson Lab	Al analysis of mouse mating and on-demand contraceptive efficacy	х х	x	x x	x	x x
JEMAYA Innovations	Heated underwear for thermal contraception	x x	x	x	x	x x
Kanazawa Medical University - Japan	Characterization of the role of glycine receptors in sperm	x x				
Kent State University	Characterization of glycogen synthase kinase 3-alpha	x x		×		x x
Monash Institute of Pharmaceutical Sciences - Melbourne, Australia	Dual-API inhibition of adrenoreceptors and purinoreceptors of vas deferens	s smooth muscle tissue x x	х	×	х	x x
Mtology Innovations	Drug / Device vas-occlusive combination product	x	х х	x	x	x x
National Autonomous University of Mexico - Mexico City, Mexico NEXT Life Sciences / Revolution Contraceptives	Basic biology of sperm capacitiation and motility	x x		×		x x
NICHD / CCTN	Vasalgel - Long-lasting reversible vas-occlusive implant	x x x	х	×	×	x x
NICHD / CCTN	Government-supported clinical trials of male hormonal contraception					
	NES/T transdermal gel	×	x x	l ×	X X	
	11B Methyl nortestosterone Dimethandrolone undecanoate	Ŷ	×	l ·	x x	
Osaka University - Japan	Genetic identification of target contraceptive genes in mouse models	x x				x x
Pharmajor Inc - Denmark	Chemical inhibition of alpha-1 a adrenoreceptors	x x	×	x	x	x x
Ronikja	Epididymis-specific high frequency thermal treatment	х х	×	×	x x	x x
Sacyl Pharmaceuticals	Discovery of chemical inhibitors of sAC inhibition as on-demand contracept	otion x x	×	×	x	x x
Sao Paulo State University - Brazil	Characterization of EPPIN in a mouse model	x x		x x x		x x
Stanford University	Discovery of allosteric chemical inhibitors of HIPK4	x	x	x	x	
The Lundquist Institute, UCLA University of Dundee - Scotland	Triptonide - A small molecule causing reversible sperm structure defects	x	x	×	x	x x
University of Cansas  University of Kansas	Phenotypic screening for sperm motility inhibitors	x	×	x x	x	x x
University of Massachussets Amherst	Chemical inhibition of ATP1A4 (Na, KATPase)	x x	x	×	x	x
University of Melhoume - Melhoume Australia	Characterization of testis-specific serine kinase family (TSSKs)  Characterization of malate dehydrogenase 1B (MDH1B)	x x x x x x		x x		x x
University of Miami, OH		÷ *		*		
University of Minnesota College of Pharmacy	Characterization of the sodium / hydrogen exchanger SLC9C1 Large academic center with medicinal chemistry focus	* *				
	Investigation of chemical basis of BTB penetration	x x		x x		х
	Discovery of chemical inhibitors of Testis-specific serine kinase family (TS		x	x	x	
	Discovery of chemical inhibitors of CatSper (Collaboration with Dundee)		x	x	x	
	Discovery of chemical inhibitors of CDK2 (Collaboration with Kansas)	x x	×	х	x	x x
	Discovery of chemical inhibitors of Na/K ATPase (Collaboration with Kans		x	x x	X	
University of Mons - Belgium	Discovery of chemical inhibitors of RARa (Collaboration with YourChoice)	x x	x	x	x	
	Characterization of ORICH2	X X	1		¥	v

University of Washington Discovery of chemical inhibitors of Aldehyde dehydrogenase 1 family, member A1 (ALDH1A) x x x x	х		
University of Wolverhampton, England Discovery of bloactive cell-penetrating peptide-based inhibitors of PP1CC2 x x x x x	x	×	×
VasDeBlock - Utethally administered stent-like vas-occlusive device x x x x	x	x	x
Vibiliome Therapeutics. Inc Discovery of chemical inhibitors of homeodomain-interacting protein kinase 4 (HIPK4) x x x x x	x	×	x
Washington State University Characterization of Arrdc5 x x			
Washington University of St. Louis Discovery of chemical inhibitors of SLO3 x x x	x	x	x
Washington University of St. Louis Basic biology lab with expertise in sperm function			
Mitochondrial uncoupling via ADP/ATP translocase 4 (ANT4) x x x	1		
Biological characterization of CatSper x x			
Chemical inhibition of Abhydrolase Domain Containing 2 (ABHD2) x x x x x x x x x x x x x x x x x x x	x		
Wavne State University Characterization and chemical inhibition of MEIG1/PACRG interaction x x x x x	x	x	x
Well Cornell School of Medicine / TDI Acute inhibition of soluble adenylyl cyclase (sAC) x x x x	x	×	×
West China Linkersity Hospital NHWD870 - Small molecule chemical inhibition of BRDT x x x x x	x	×	
Yale Linkversity         Characterization and assay development related to CatSper         x         x         x         x	x	x	×
YourChoice Therapeutics YCT-529 - Sall molecule chemical inhibition of RARa x x x	x	×	x
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