

## Research Overview: Studies Performed on 112 Degrees

STUDY NAME	PURPOSE	DESCRIPTION	RESULTS
Acute Oral Toxicity Study	Safety	Measures the effect of a single oral dose that is 100x greater than recommended human dose.	Safe. No toxicity demonstrated under the conditions of this assay.
Genotoxicity Test #1 Bacterial Reverse Mutagenicity Assay	Safety	Measures gene mutations in cell DNA	Safe. No toxicity demonstrated under the conditions of this assay.
Immortalized Human Hepatocyte Assay	Safety, Drug Interaction	Measures effect on liver detoxification enzyme systems involved in 1st phase drug metabolism.	Safe. No toxicity demonstrated under the conditions of this assay.
Two week and Three month studies on dosage safety	Safety	Measures effect of 10x human dosage.	Safe. No toxicity demonstrated under the conditions of this assay.
Genotoxicity Test #2 Peripheral Blood Micronucleus Assay	Safety	Measures the clastogenic effect on chromosomes.	Safe. No toxicity demonstrated under the conditions of this assay.
Genotoxicity Test #3 Chromosome Aberrations	Safety	Measures the effect on chromosomes in mammalian cells.	Safe. No toxicity demonstrated under the conditions of this assay.
Cytotoxicity Study	Safety	Measures ability to damage or kill cells.	Safe. No toxicity demonstrated under the conditions of this assay.
Active Analysis for Adulterants	Purity	Test for ED drug adulteration. Applied to each production run.	Every lot tested for purity
Active Analysis for Adulterants	Purity	Test for 19 different drug categories and 168 Active pharmaceutical ingredients.	Every lot tested for purity
Heavy Metals	Purity	Test for copper, arsenic, cadmium mercury and lead.	Every lot tested for purity
Pesticides	Purity	Test for 34 different pesticides.	Every lot tested for purity
Microbiological	Purity	Test for molds, yeasts, E.coli and Salmonella.	Every lot tested for purity
Aflatoxin	Purity	Aflatoxins are naturally occurring toxic & carcinogenic mycotoxins produced by species of <i>Aspergillus</i> .	Every lot tested for purity
ORAC (Oxygen Radical Absorbance Capacity)	Cell Protection	Measures quenching ability against free radicals.	Reduced free radicals
CAP (Anti-oxidant Capacity Assay)	Cell Protection	Analyzes anti-oxidant capacity in living cells.	Reduced free radicals
Key Ingredient Characterization Study	Quality Assurance, Patents	Creates analytical methods to verify ingredient composition of every lot of 112 Degrees.	Ingredients conformed to specifications.
Disintegration Test	Efficacy	Test product's ability to disintegrate and dissolve in a timely & effective manner.	Positive
Rho-kinase Inhibition Assay	Efficacy	Test for support of relaxation of smooth muscles <i>in vitro</i> .	Relaxation effect shown
iNOS and eNOS assays	Efficacy	Measures <i>in vitro</i> ability to induce iNOS and eNOS enzymes in cells, and nitric oxide production.	Induction of iNOS and increased nitric oxide production.
COX-2 and lipoxxygenase assays	Efficacy	Measures <i>in vitro</i> effects on COX-2 and lipoxxygenase enzymes	Mild inhibitory effect on COX-2, strong inhibitory effect on lipoxxygenase
2 Week Study on Sexual Effect & Behavior	Efficacy & Safety	Measures effect on sexual behavior, penile size, intracavernous pressure, testosterone level, sperm density, and organs in rats.	Supports evidence of efficacy & safety. No toxicity demonstrated under the conditions of this assay.