

SYSTEMS



Assay Design Suite v3.1

MassARRAY® System

Software tool for designing custom panels on the MassARRAY® System

For Research Use Only.
Not for use in diagnostic procedures.

Agena®
BIOSCIENCE

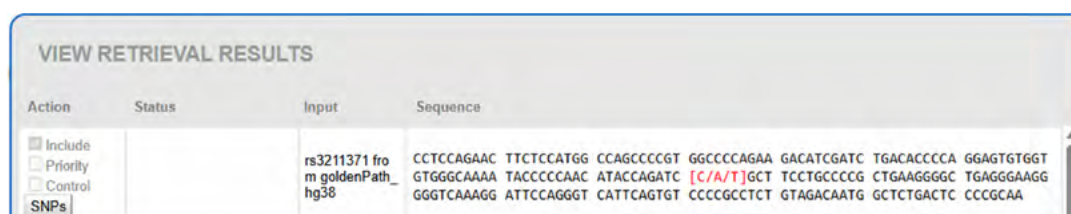
Overview

The Agena Bioscience® Assay Design Suite (ADS) is a comprehensive and powerful tool for designing genotyping (including pharmacogenetics, hereditary genetics, and specimen integrity applications), somatic mutation, ultra-sensitive mutation and pathogen detection assays for use with iPLEX®, iPLEX®HS, Agena ClearSEEK™ or UltraSEEK® biochemistries and analyzed on the MassARRAY® system. The user-friendly interface integrates all assay design steps into a single software package. Users import target sequences, check design criteria, and generate documents for oligo ordering, downstream workflow, and assay performance predictions.

Five-Step Workflow

STEP 1 RETRIEVE & FORMAT SEQUENCES

Imports and reformats rs numbers, FASTA, or SNP Group files into a standardized format. An example is shown in Figure 1.

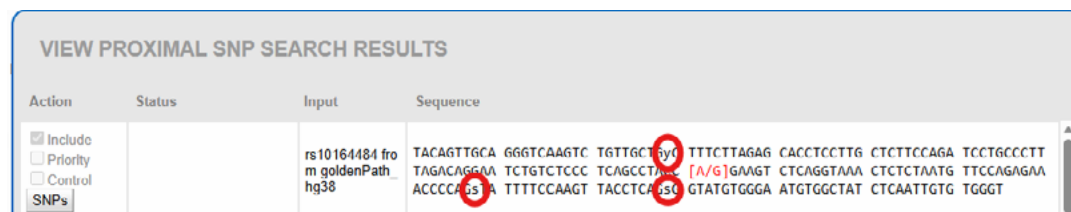


Action	Status	Input	Sequence
☒ Include ☐ Priority ☐ Control ☒ SNPs		rs3211371 from goldenPath_hg38	CCTCCAGAAC TTCTCCATGG CCAGCCCCGT GGCCCCAGAA GACATCGATC TGACACCCCA GGAGTGTGGT GTGGGCAAAA TACCCCAAC ATACCAGATC [C/A/T]GCT TCCTGCCCG CTGAAGGGC TGAGGGAAGG GGGTCAAAGG ATTCCAGGGT CATTCACTGT CCCCCTCT GTAGACAATG GCTCTGACTC CCCGCAA

Figure 1: Result view for Step 1. After rs number upload, software retrieved sequences from the chosen DB. The SNP is in square brackets and flanked by 100 bp sequence.

STEP 2 FIND PROXIMAL SNPs (PROXSNP)

Identifies registered SNPs in close proximity, preventing primers from being designed over polymorphic regions (Figure 2). Human genome only. Proximal SNPs are highlighted in blue. Frequencies for the proximal SNPs can be chosen by the operator.



Action	Status	Input	Sequence
☒ Include ☐ Priority ☐ Control ☒ SNPs		rs10164484 from goldenPath_hg38	TACAGTTGCA GGGTCAAGTC TGTGCTGTC TTTCTTAGAG CACCTCCTTG CTCTCCAGA TCCTGCCCTT TAGACAGGAA TCTGTCTCCC TCAGCCTAAC [A/G]GAAGT CTCAGGTAAA CTCTCTAATG TTCCAGAGAA ACCCCACTTA TTTTCAAGT TACCTCAAGC GTATGTGGGA ATGTGGCTAT CTCAATTGTG TGGGT

Figure 2: shows proximal SNPs (red circle) using the IUPAC ambiguity code.



STEP 3 IDENTIFY OPTIMAL PRIMER AREAS (PREXTEND)

Demarcates PCR amplification primers that yield only a unique amplification product. Human genome only. The area for the location of the PCR primer is kept in capital letters. Example shown in Figure 3.

VIEW PRIMER LOCATION SEARCH RESULTS			
Action	Status	Input	Sequence
☒ Include ☐ Priority ☐ Control ☒ SNPs		rs32113/1 from goldenPath_hg38	cctccagaac ttctccatgg ccagcccccgt ggccccagaa gacatcgatc tgacacccca ggagtgtggt gtggGCAAAA TACCCCAAC ATACcagatc [C/A/T]gct tctgccccg ctgaaggggc tgagggaagg gggtcaaagg attccagggg cattcagtgt cccCGCCTCT GTAGACAAATG GCTctgactc ccgcraa

Figure 3: Result view for Step 3. Demarked PCR amplification primer areas in capital letters.

STEP 4 DESIGN ASSAYS

Creates multiplexed assays including extend primer sequence and directionality. Generates oligo ordering files and MassARRAY Typer import files. In addition it shows a simulation of the expected peak distribution in the spectrum (Figure 4).

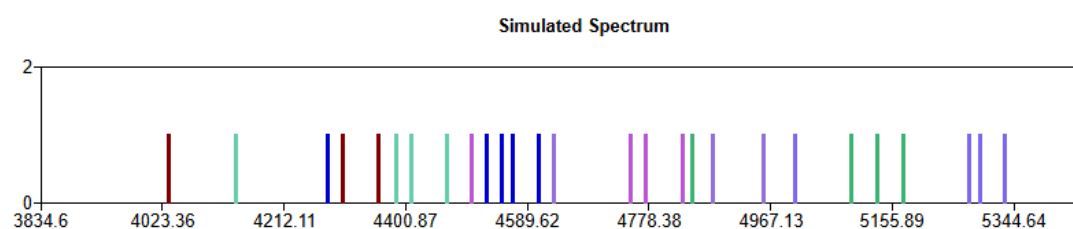


Figure 4: Simulated spectrum of an assay design.

STEP 5 VALIDATE (PLEXTEND)

Validates multiplex designs to identify unintended cross-amplification products. Human genome only.

Accessing ADS

Assay Design Suite is hosted online by Agena Bioscience. Users log in via the Agena Bioscience Customer Support Portal (CSP). Output files are compatible with MassARRAY® Typer v4.1+. Training videos and User Guides on how to use ADS are available on the Customer Support Portal.

Behind Every Genetic Analysis There is a Trusted Platform

The MassARRAY® System is an open platform that simplifies the genetic testing process. Placed at the center of your molecular workflow, you can optimize your laboratory efficiency. With a wide variety of applications, including PGx, oncology, sample identification, and custom panels, the MassARRAY system is an ideal solution to meet your testing needs.



For Research Use Only. Not for use in diagnostic procedures.

Agena Bioscience, Inc.
4755 Eastgate Mall
San Diego, CA 92121
Phone: +1.858.882.2800
agenabio.com

Order Desk: +1.858.202.9301
orderdesk@agenabio.com

SYS0054 01 MassARRAY and Agena Bioscience are registered trademarks of Agena Bioscience, Inc.
©2026 Agena Bioscience, Inc. All rights reserved.

Agena[®]
BIOSCIENCE