

HLA Explore[™] NGS software

HLA Explore is HLA genotyping software for genetics/genomics researchers for the analysis and interpretation of any NGS data. It is flexible and customizable to handle all sequencing data types from short read technologies such as Illumina and Ion Torrent, as well as newer long-read technologies from Pacific Biosciences, Oxford Nanopore.

HLA Explore can analyze data from any experiment type i.e. targeted exons, targeted whole genes, whole MHC, whole exome or whole genome. It is a high-performance, high-throughput and high-resolution multi-sample software for genotyping analysis, interpretation and reporting.

Product Highlights



- · Unambiguous fourth-field genotyping results for targeted whole-gene data*
- · Unambiguous third-field genotyping results for targeted exons, whole exome or whole genome data*
- · Platforms: Illumina, Ion Torrent, Pacific Biosciences and Oxford Nanopore
- · Command line automation for integrations with in-house pipelines
- Fast, high throughput, high resolution genotyping for up to 33 HLA loci of the MHC
- Mismatch reporting based on simple base statistics
- Novel allele detection
- Support for external databases (Allele Frequency)
- Export HML 1.0.1 and PDF Summary Reports

*depends on experimental design



Approval	Sample	Allele	HLA-A	HLA-D	HAC	HLA-CP91	HLA-DQA1	HLA-DQ81	HLA-CR31	HLA-ORE3
	HW01015 POOL 0400155-07_51_0001_01_001_2016-04-21_10-35-31			HLA8*18.01.01	HUA-0107-01.01	HLA-DP81102.04.02		 HLA D081106.39 HLA D081106.03.01 	 HLAOF91*1311.01 	HLA 0883101.01.02
lot approved	HW21215 FOOL 0408155-97_51_4201_81_001_2016-04-21_10-35-9	Allele 2	• HLAAT30101	0 +HA0510101	0 • NLA-C*150201	 HLA-DPB1*14.01:01 	• HLADQA110103.01	0 HLA-D05/10004-01 0 HLA-D05/100-01	HLAORD11130201	HLA DRE3933.01:01
lot approved	HW01070-A4000-98_51_001_91_001_3036-04-22_17-35-43	Allele 1	HLAA101.01.01	0 HLA81801.01	HLA-C108.04.01	 HLA-DP81104.01.01 HLA-DP81106.01 	• HEADQA1102.01	HLA DOB1103:02:01	HLAOFB1104 84.01	
lot approved	HW01070-A-POOL-88,51_001_F1_001_2016-04-22_17-35-43	Alicle 2	O HLAAT20101	O HEADWOOLE2 HEADWOOLE2	 HLA-C107-01-01 	 HLA-DPB1104 02:01 HLA-DPB1104 02:01 	HLA-DQA1702.01.01	22 C0 C2*H8DQ ALH • 0	 HLA-0681107-01.01 	
	HW01070-APOX,_51_001_01_001_2016-04-22_17-09-42	Allele 1	HLAA101.01.01	HLA810801.01	 HLA-C108.04.01 	 HLA-DP81104.01.01 HLA-DP81106.01 	• HEADQA1102.01	HLA DOB1103/02.01	HLA-0981104 84.01	
lot approved	HW01010-A-POOL_51_L001_81_001_2016-04-22_17-09-42	Allele 2	O HLAAT220101	O HEADWOOLD2 HEADWOOLD2	 HLA-C107-01-01 	 HLA-DPB1104 02:01 HLA-DPB1104 02:01 	HLADQA10201.01	22 C0 C2*HBDG AJH • 0	 HLA-060107-01-01 	
lot approved	HW01128-A-P00L-99_52_L001_FIL_001_2016-04-22_17-39-15	Allele I	HEAA11.0101	0 HLA8107.02.01	HLA-C104 01.01	HLADP8115.01.01	HLADQA1010101.01	0 HLADG81103.02.01	0 HLACEB101010101	
tot approved	HW01128-A-POOL-99_52_L001_R1_001_2016-04-22_17-39-15	Aliele 2	HLAAT220101	0 HLA0050101	5 • HLA-C/07/02/01	0 HLA-DP011463.01	0 • HLA DQA10201.01	0 HLADG51705.01 01	5 . HLA-DED1104 54:01	
lot approved	HW01128-APOOL_52_L001_81_001_2016-04-22_17-13-44	Alicle 1	HAA110111	HA9170211	HJA-C*0401.01	HJA0P9115.01.01	HA00410191.01	0 • HLA DOB1103.02.01	HJAGE9110121.01	
lot approved	HW01128-A-POOL_52_000_R1_001_2016-04-22_17-13-44	Allele 2	HLAATE20181	HLA8735.0101	HLA-C107:02:01	HLA-DP811463.01	HLADQA10201.01	HLA-DOB1705-01-01	0 . HLA-0891104 54:01	
tot approved	HW01146 A POOL100_53 (001_81_001_2016-04-22_17-42-16	Alicle 1	0 .HLAA'01.0101	0 +HA0500101	0 9 HLA-C'02:05	0 HLA-DP01102-01-02	O HEADQA152.01	0 . HLA DOD/102.02-01	0 . HLA-0601010107-01	
lot approved	HW01146-A-POID-100_53_L001_81_001_2016-04-22_17-42-16	Aftele 2	HEAA11.01.01	HLAB'S1.01.01	HLA-C*15/02/01	HLADP91103.01.01	HLA DQA103.03.01	HLA DOB1103.01.01	0 . HJA 0991107.01.01	
lot approved	HW01146-A-POOL_53_0001_R1_001_2016-04-22_17-14-57	Allele 1	HLAATI 0101	0 HLA8500101	6 MLA-C108.05	0 HLADEB102:01:02	0 MLADQA10201	0 HLADG51702.02.01	0 • HLA-0451104 ST 01	
tot approved	HW01146 A FOOL, 53, 1001, 81, 001, 2016-04 22, 17.14-57	Alicle 2	HLAA*11:01:01	0 +LAPS10101	HLA-C*1502.01	HJA-DPB1102:01:01	HLA DOA1102 02:01	0 HLADQ011020101	HJA-0691107-01-01	
lot approved	HW01171-A4003_54_001_01_001_201646422_171647	Allele I	HLAA1220181	0 • HLA8*1302.01	 HLA-C108.03.01 	HLA-DP81104.01.01	HLA-DQA1102-01	HLA-DOB1102.02.01	0.12/07/8904JH • 0	 HLA 098310215 HLA 098310218
tot approved	HW01171 A POOL_54_201_81_001_2016-04-22_17-16-47	Alicle 2	O 9 HEAA%0.0102	O 9 HEADNECC 01	0 • HLA-C107.04.01	0 HLA-DPD1*14.01:01	0 • HLA DOA110205.01	HLADQ01102.01.01	0 MLAGED1*1101.01	O 9 HLA-DR0292-26
lot approved	HW01102 A POOL_55_6001_81_001_2016-04-22_17-18-19	Aftele 1	HEAA12201.01	HLA-8140.01.02	HLA-C108.04.01	HLADP91102.01.02	HLADQA10182.01	13:50:521:1800 AJH ● 0	0 . HJA099107.01.01	HLA DR89133.01.01
lot approved	HW01192-A-POOL_55_0001_81_001_2016-04-22_17-18-19	Afiele 2	O BHAA230101	0 HLA8110101	5 • HLA-C*17-01-01	0 HLA-0P81103-01-01	0 • HLADQA1102.01	12 K0:301/60G AUH ● 0	0 • HLA-0601113-02-01	0 HLADREST03.01.01
lot approved	HW01185 A POOL_56_2001_81_001_2016-04-22_17-19-47	Allele 1	HLA-M220611	0 +HA9480281	 HLA-C10E01.01 	 HUA-DPB1104.01:01 	 HLA DOA110102.01 	 HLA DQ81102.01.01 	 HJAGE81*1101.01 	 HLA DRB29224 HLA DRB39221
ict approved	HM01105 A POOL_56_000_01_001_2016-04-20_17-1947	Allele 2	HLAA250101	0 • HLA-819201 01	 MLA-C707-01.01 	0 HLA-0981113-01-01 0 HLA-09811100:01	HLA-DQA105/05/01	MLA-DQB1700.09.01	MLA-0881113 02:01	HLA DREST03:01:01
	HW99966-A FOOL104_57_L001_81_001_2016-04-22_17-45-40	Alicle 1	0 • HLAA1220121	HLA-8*15.01.01	HLA-C102.03.01	HJA-0P91102:01:02	HLA-DQA10192.01	HLA DOB1102.02.01	HJAOR81107.01.01	
lot approved	HW09066-A-PORL-TON_57_L001_R1_001_2016-04-22_17-45-40	Allele 2	0 • HEAA1220101 +	0 HLA814403.01	0 9 HLA-C'04 09N	© HLADP81106.01	0 • HLADGA1102.01	0.00001800 AJH • 0	© • HJAC#81*15:01:01	
kot approved	HW99501 A POOL 105_58_3001_81_001_2016-04-22_17-47-25	Allele 1	0 HLA-4101.02	O HEADS00101	HLA-0102.02.02	 HLA-DPB1101.01:01 HLA-DPB1122:01 	HLADQA110102.01	0 0 HLA DOB/100 39	 HLA-GED1*13.01.01 	 HLA DRE3/02-2N HLA DRE3/02-13

Figure: 3-field genotyping results from targeted sequencing data

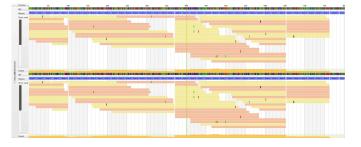


Figure: Random noise in high coverage whole genome sequencing data

Control Together with Omixon, we have used next-generation sequencing tools to significantly advance HLA typing.

Prof. Dimitri Monos, The Children's Hospital of Philadelphia

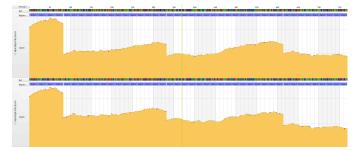


Figure: Coverage depth profile of targeted sequencing data

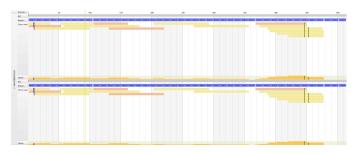


Figure: HLA-DRB2 novel allele candidate found in low coverage whole genome sequencing data

Licensing

Omixon HLA Explore is licensed for Desktop computer and Client/Server architectures.

The base module comes with the majority of features for analysis and interpretation of short read sequence data (Illumina, Ion Torrent) for targeted experimental approaches. There are additional modules for Long Read Analysis and Big Data Analysis (WGS and WES).

	PRICE PER COMPUTE NODE*				
	Desktop	Client/Server			
HLA Explore	\$3,000	\$10,000			
Long Read Analysis Module	\$1,500	\$5,000			
Big Data Module	\$1,500	\$5,000			

* Implemented as a hardware key, "node locked" license

Sold as Annual Subscription Licenses with unlimited analyses

HLA Explore "Base" includes analysis of Targeted Data and all data interpretation modules Discounts can be applied for multiple modules and multiple users



All Omixon activities covered by an ISO 13485:2003 & EN ISO 13485:2012 Quality Management System (QMS)



Technical Requirements

Requirement	Clients and Desktops	Server	
RAM	16+ GB	32+ GB	
CPU	4+ cores	8+ cores	
HDD	1 TB	2 TB	

+1 (617)-500 0790