

TPPs* In Genedata – Target Product

- TPP is a biotherapeutic entity – mAb, bispecific, mRNA, AAV, etc.
- TPPs must be associated with one or more Project
- TPPs can be created by providing sequences either through upload, linking to existing plasmids (VEC) in the system, or without a sequence (which can be uploaded later)

Sequences

Import a Plasmid file containing annotations marking the Protein sequences for the Target Product or select existing Plasmid Encoded Chain.

The file may be in Genbank .gb format. The system tries to match annotation text found in the file (e.g., "mature heavy chain") with expected names of protein chains. A description of the annotations the system expects can be found in the [chain identification documentation](#).

Import...

Light Chain	Heavy Chain 1	Heavy Chain 2
Existing Plasmid Encoded Chain	Light Chain	
Plasmid Name	VEC-76714 (AbC light chain) -- Light Chain	
Backbone Vector	VEC-76711 (AbB light chain) -- Light Chain	
Add to Target Product	VEC-76709 (AbA light chain) -- Light Chain	
Create first Plasmid Batch	VEC-76708 (Ab7 light chain) -- Light Chain	
	VEC-76705 (Ab6 light chain) -- Light Chain	
	VEC-76704 (Ab5 light chain) -- Light Chain	
Protein Sequence	VEC-76702 (Ab2 light chain) -- Light Chain	
No protein sequence extracted	VEC-76696 (RO-v3 light chain) -- Light Chain	
	VEC-70949 (Hz73D1.v1 light chain) -- Light Chain	
Genbank file comment	VEC-70948 (Hz64A12 light chain) -- Light Chain	
Comment from Source	- Showing the first 10 results only -	

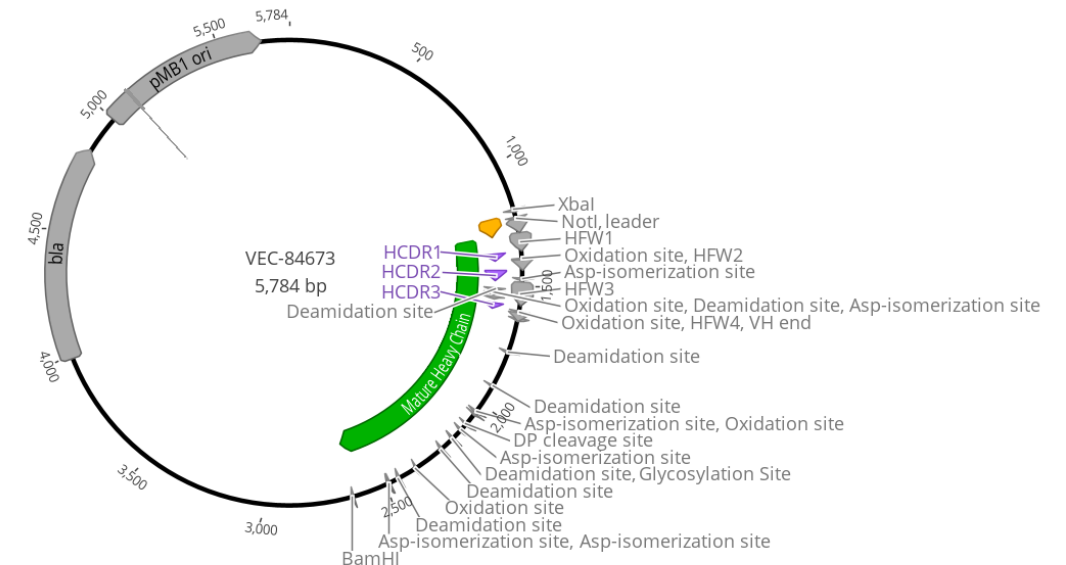
File

Web Protein Analyzer **Create** v

- Copy and paste sequence
- Import FASTA file
- Import GenPept file
- Import Genbank file**
- Import GenPept/Genbank file
- Without sequence
- Import GenPept Archive (Bulk)
- From Plasmids**

By uploading a GenBank file

Upload annotated GenBank file(s) containing the TPP's DNA sequence to simultaneously create two new entities: a TPP and its associated vector(s) encoding the TPP



*Genedata legacy note : TPP originally stood for Target Protein Product. A lot of Protein nomenclature remains from pre-2020 when Genedata was used exclusively for antibodies and other proteins.

TPP - Registering Different Types of Biotherapeutics

Create New Target Product from File

Step 1 of 3

This sequence of pages guides you through the process of creating a new Target Product and adding it to Project PRJ-528.

The Target Product is read from a Genbank file containing an expression construct with feature annotations following the according naming convention.

Type and Format

Please select purpose, type and format of the Target Product.

Purpose * Therapeutic

Type of Product * Antibody

Format * IgG

Light Chain Isotype * Deduce from Constant Region

Heavy Chain Isotype * Deduce from Constant Region

Antibody Library LIB-2 (GBT Mouse Refer)

Complexation * 2

Chain Multiplicity Light Chain: 1, Heavy Chain: 1

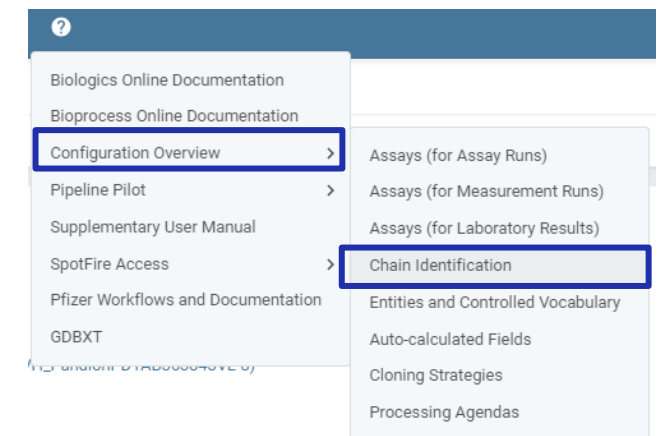
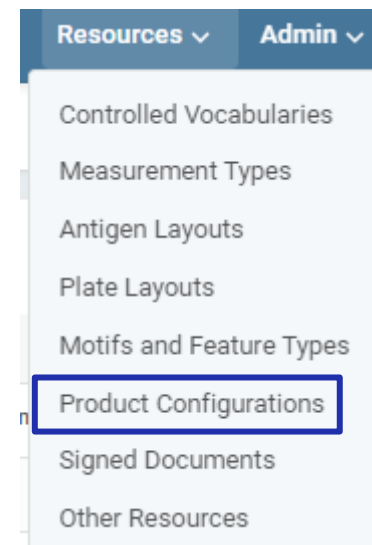
Chain Identification for Genbank Import

Chain	Identification String	Example
Light Chain	(?i)mature LC	
Light Chain	(?i)mature light chain	mature light chain
Heavy Chain	(?i)mature HC	
Heavy Chain	(?i)mature heavy chain	mature heavy chain

Cancel Next

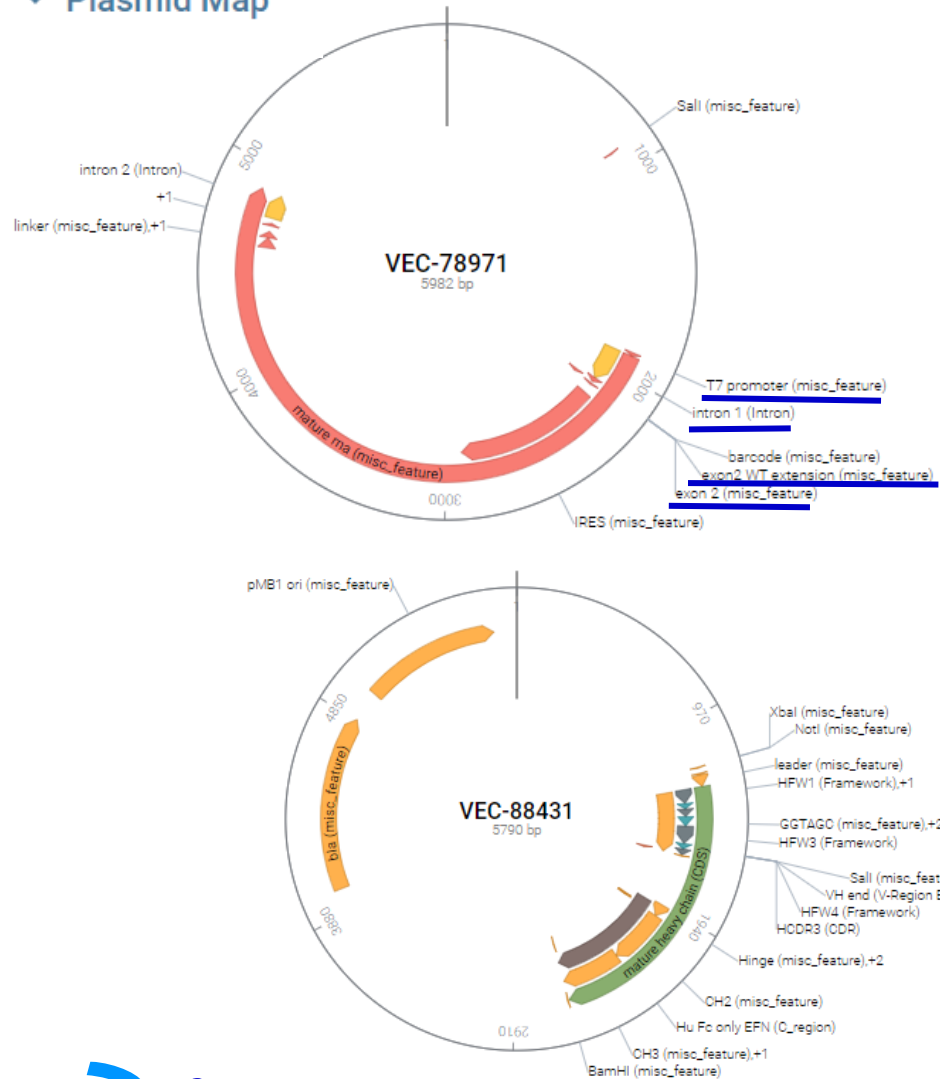
- When creating a new TPP need to select the right format
- Antibody library important for Genedata automatic annotations of CDRs and FWRs
- Complexation automatically set by format; monomer, dimer, n-mer
- Chain multiplicity is number of copies of chain / complexation

- All available formats listed in Product Configurations, Formats table
- Need new format? Email **DL-BMD_BIOINFORMATICS** with fasta/Genbank example and image for Genedata
- Formats define chains – example HC and LC for IgG
- Chain annotations are interpreted by Genedata Biologics – example : extract gene of interest for mRNA by finding mature_mrna annotation
- For protein chains annotation covers translated sequence; for mRNA chain annotation covers end of T7 promoter to polyA tail



Vector (Plasmid) Registration

Plasmid Map



- Plasmids are linked to a Target Product
- Can be reused by linking to other Target Products
- Chain annotations are interpreted by Genedata Biologics – example : extract gene of interest for mRNA by finding mature_mrna annotation
- Genbank file annotations displayed as plasmid features, original and Genedata generated Genbank files can be downloaded
- For protein chains annotation covers translated sequence; for mRNA chain annotation covers end of T7 promoter to polyA tail

12 (out of 13) Features						
<input type="checkbox"/> Type	Name	Range	↑	Strand	Feature Sequence	
<input type="checkbox"/> Restriction Site	Sall	897..902	+		GTCGAC	
<input type="checkbox"/> misc_feature	Sall	897..902	+		GTCGAC	
<input type="checkbox"/> misc_feature	T7 promoter	1889..1905	+		TAATACGACT CACTATA	
<input type="checkbox"/> Intron	intron 1	1906..2089	+		GGGGGAGACC CTCGATTGGT TCTACATAAA TGCCTAACGA CTATCCCTTT GGGGAGTAGG GTCAAGTGAC TCGAAACGAT AGACAACCTG CTTTAAACAAG TTGGAGATAT AGTCTGCTCT GCATGGTGAC ATGCAGCTGG ATATAATTCC GGGGTAAGAT TAACGACCTT ATCTGAACAT AATG	
<input type="checkbox"/> misc_feature	exon 2	2090..2113	+		CTACCGTTTA ATATTGCGTC ATAT	
<input type="checkbox"/> misc_feature	exon2 WT extension	2109..2123	+		CATATGCTAC GTTAG	

<input type="checkbox"/> Type	Name	Range	↑	Strand	Description
<input type="checkbox"/> Framework	HFW1	1289..1363	+		Identified by Genedata Framework Recognition by comparison to REF-373 (huIGHV3-23*01/3-23D*01_IGHJ4*01,02,03).
<input type="checkbox"/> CDR	HCDR1	1364..1393	+		Identified by Genedata Framework Recognition by comparison to REF-373 (huIGHV3-23*01/3-23D*01_IGHJ4*01,02,03).
<input type="checkbox"/> Framework	HFW2	1394..1435	+		Identified by Genedata Framework Recognition by comparison to REF-373 (huIGHV3-23*01/3-23D*01_IGHJ4*01,02,03).
<input type="checkbox"/> CDR	HCDR2	1436..1486	+		Identified by Genedata Framework Recognition by comparison to REF-373 (huIGHV3-23*01/3-23D*01_IGHJ4*01,02,03).
<input type="checkbox"/> Framework	HFW3	1487..1582	+		Identified by Genedata Framework Recognition by comparison to REF-373 (huIGHV3-23*01/3-23D*01_IGHJ4*01,02,03).
<input type="checkbox"/> CDR	HCDR3	1583..1612	+		Identified by Genedata Framework Recognition by comparison to REF-373 (huIGHV3-23*01/3-23D*01_IGHJ4*01,02,03).
<input type="checkbox"/> Framework	HFW4	1613..1645	+		Identified by Genedata Framework Recognition by comparison to REF-373 (huIGHV3-23*01/3-23D*01_IGHJ4*01,02,03).
<input type="checkbox"/> C_region	Hu Fc only EFN	1955..2635	+		Identified by Genedata Constant Region Identification with a similarity of 100.0% to CON-42 (Hu Fc only EFN).