

# Documentation for Rest-API HELMNotationToolkit

## Available Services:

<b>Validation of HELM String</b>	/WebService/service/Validation/{HELMNotation}	<b>G E T</b>
<i>Description</i>	Check for conformance to the specification & availability of monomers in the current monomer database. Be careful with special cases in the url	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
HELMNotation	Input HELM String	
<b>Validation of HELM String</b>	/WebService/service/Validation/	<b>P O S T</b>
<i>Description</i>	Check for conformance to the specification & availability of monomers in the current monomer database	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
InputJSON	"{"HELMNotation": "PEPTIDE1{A.G}\$\$\$\$V2.0"}"	
<b>Generate Image for Monomer</b>	/WebService/service/Image/Monomer/?monomerId={monomerId}&polymerType={polymerType}	<b>G E T</b>
<i>Description</i>	Image generation of the atom/bond representation of monomer	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Image/png	
Accept	Application/json	
monomerId	MonomerAlternateld of the monomer	
polymerType	PolymerType of the monomer	
<b>Generate Image for Monomer</b>	/WebService/service/Image/Monomer/	<b>P O S T</b>
<i>Description</i>	Image generation of the atom/bond representation of monomer	

Parameter	Description	
Content-Type	Image/Base64	
Accept	Application/FormURLENCODED	
InputJSON	"{\\"monomerId\\":\\"A\\",\\"polymerType\\":\\"PEPTIDE\\"}"	
<b>Generate Image for HELM</b>	/WebService/service/Image/HELM/{HELMNotation}	<b>G E T</b>
<i>Description</i>	Image generation of the atom/bond representation of the HELM molecule	
Parameter	Description	
Content-Type	Image/png	
Accept	Application/Json	
HELMNotation	Input HELM String	
<b>Generate Image for HELM</b>	/WebService/service/Image/HELM/	<b>P O S T</b>
<i>Description</i>	Image generation of the atom/bond representation of the HELM molecule	
Parameter	Description	
Content-Type	Image/base64	
Accept	Application/json	
InputJSON	"{\\"HELMNotation\\":\\"PEPTIDE1{A.G}\$\$\$\$V2.0\\"}"	
<b>Molecular Weight Calculation</b>	/WebService/service/Calculation/MolecularWeight/{HELMNotation}	<b>G E T</b>
<i>Description</i>	Calculates the molecular weight of a non-ambiguous HELM string	
Parameter	Description	
Content-Type	Application/json	
Accept	Application/json	
HELMNotation	Input HELM String	
<b>Molecular Weight Calculation</b>	/WebService/service/Calculation/MolecularWeight/	<b>P O S T</b>
<i>Description</i>	Calculates the molecular weight of a non-ambiguous HELM string	
Parameter	Description	
Content-Type	Application/json	
Accept	Application/json	
InputJSON	"{\\"HELMNotation\\":\\"PEPTIDE1{A.G}\$\$\$\$V2.0\\"}"	

<b>Molecular Formula Calculation</b>	/WebService/service/Calculation/MolecularFormula/{HELMNotation}	<b>GET</b>
<i>Description</i>	Calculates the molecular formula of a non-ambiguous HELM string	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
HELMNotation	Input HELM String	
<b>Molecular Formula Calculation</b>	/WebService/service/Calculation/MolecularFormula	<b>POST</b>
<i>Description</i>	Calculates the molecular formula of a non-ambiguous HELM string	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
InputJSON	"{"HELMNotation":"PEPTIDE1{A.G}\$\$\$\$V2.0\"}"	
<b>Extinction coefficient Calculation</b>	/WebService/service/Calculation/ExtinctionCoefficient/{HELMNotation}	<b>GET</b>
<i>Description</i>	Calculates the extinction coefficient of a non-ambiguous HELM string	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
HELMNotation	Input HELM String	
<b>Extinction Coefficient Calculation</b>	/WebService/service/Calculation/ExtinctionCoefficient/	<b>POST</b>
<i>Description</i>	Calculates the extinction coefficient of a non-ambiguous HELM string	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
InputJSON	"{"HELMNotation":"PEPTIDE1{A.G}\$\$\$\$V2.0\"}"	
<b>Conversion in Canonical HELM</b>	/WebService/service/Conversion/Canonical/{HELMNotation}	<b>GET</b>
<i>Description</i>	Converts HELM into canonical HELM	

Parameter	Description	
Content-Type	Application/Json	
Accept	Application/Json	
HELMNotation	Input HELM String	
<b>Conversion in Canonical HELM</b>	/WebService/service/Conversion/Canonical/	<b>P O S T</b>
<i>Description</i>	Converts HELM into canonical HELM	
Parameter	Description	
Content-Type	Application/json	
Accept	Application/json	
InputJSON	"{"HELMNotation\":"PEPTIDE1{A.G}\$\$\$\$V2.0\"}"	
<b>Conversion in Standard HELM</b>	/WebService/service/Conversion/Standard/{HELMNotation}	
<i>Description</i>	Converts HELM String into Standard HELM Notation. Note that HELM2 will be downcasted to HELM1, if it is possible	
Parameter	Description	
Content-Type	Application/json	
Accept	Application/json	
HELMNotation	Input HELM String	
<b>Conversion in Standard HELM</b>	/WebService/service/Conversion/Standard/	<b>P O S T</b>
<i>Description</i>	Converts HELM String into Standard HELM Notation. Note that HELM2 will be downcasted to HELM1, if it is possible	
Parameter	Description	
Content-Type	Application/json	
Accept	Application/json	
InputJSON	"{"HELMNotation\":"PEPTIDE1{A.G}\$\$\$\$V2.0\"}"	
<b>Converts HELM String to FASTA</b>	/WebService/service/Fasta/Produce/{HELMNotation}	<b>G E T</b>
<i>Description</i>	Converts HELM String to FASTA-File Format	
Parameter	Description	
Content-Type	Application/json	
Accept	Application/json	
HELMNotation	Input HELM String	

<b>Converts HELM String to FASTA</b>	/WebService/service/Fasta/Produce/	<b>P O S T</b>
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<i>Description</i>	Converts HELM String to FASTA-File Format
<b>Parameter</b>	<b>Description</b>
Content-Type	Application/json
Accept	Application/json
InputJSON	"{"HELMNotation\":"PEPTIDE1{A.G}\$\$\$\$V2.0\"}"

<b>Converts Fasta to HELM</b>	/WebService/service/FASTA/Read/?RNA={RNA}&?PEPTIDE={PEPTIDE}	<b>G E T</b>
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<i>Description</i>	Converts Fasta to HELM and generates HELM String
<b>Parameter</b>	<b>Description</b>
Content-Type	Application/json
Accept	Application/json
RNA	FASTA-File containing nucleotides
PEPTIDE	FASTA-File containing peptides

<b>Converts Peptide Fasta to HELM</b>	/WebService/service/FASTA/Read/PEPTIDE/	<b>P O S T</b>
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<i>Description</i>	Converts Peptide Fasta to HELM and generates HELM String
<b>Parameter</b>	<b>Description</b>
Content-Type	Application/json
Accept	Application/json
InputJSON	"{"PEPTIDE\":">A\n AAA\"}"

<b>Converts RNA Fasta to HELM</b>	/WebService/service/FASTA/Read/RNA/	<b>P O S T</b>
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<i>Description</i>	Converts RNA Fasta to HELM and generates HELM String
<b>Parameter</b>	<b>Description</b>
Content-Type	Application/json
Accept	Application/json
InputJSON	"{"RNA\":">A\nGGG\"}"

<b>Converts HELM to peptide natural analogue sequence</b>	/WebService/service/FASTA/Convert/PEPTIDE/{HELMNotation}	<b>G E T</b>
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<i>Description</i>	Converts HELM string into peptide natural analogue sequence
<b>Parameter</b>	<b>Description</b>

Content-Type	Application/json	
Accept	Application/json	
HELMNotation	Input HELM String	
<b>Converts HELM to peptide analogue sequence</b>	/WebService/service/FASTA/Convert/PEPTIDE/	<b>P O S T</b>
<i>Description</i>	Converts HELM string into peptide natural analogue sequence	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
InputJSON	"{\ "HELMNotation\":\ "PEPTIDE1{A.G}\$\$\$\$V2.0\"}"	
<b>Converts HELM to RNA analogue sequence</b>	/WebService/service/FASTA/Convert/RNA/{HELMNotation}	<b>G E T</b>
<i>Description</i>	Converts HELM string into RNA natural analogue sequence	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
HELMNotation	Input HELM string	
<b>Converts HELM to RNA natural analogous sequence</b>	/WebService/service/FASTA/Convert/RNA/	<b>P O S T</b>
<i>Description</i>	Converts HELM string into rna natural analogues sequence	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
InputJSON	"{\ "HELMNotation\":\ "PEPTIDE1{A.G}\$\$\$\$V2.0\"}"	
<b>Read RNA Sequence</b>	/WebService/service/Sequence/RNA/{sequence}	<b>G E T</b>
<i>Description</i>	Reads RNA Sequence and generates HELMNotation	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
sequence	Input rna sequence	
<b>Read Peptide Sequence</b>	/WebService/service/Sequence/PEPTIDE/{sequence}	<b>G E T</b>
<i>Description</i>	Reads Peptide Sequence and generates HELMNotation	
<b>Parameter</b>	<b>Description</b>	
Content-Type	Application/json	
Accept	Application/json	
sequence	Input peptide sequence	