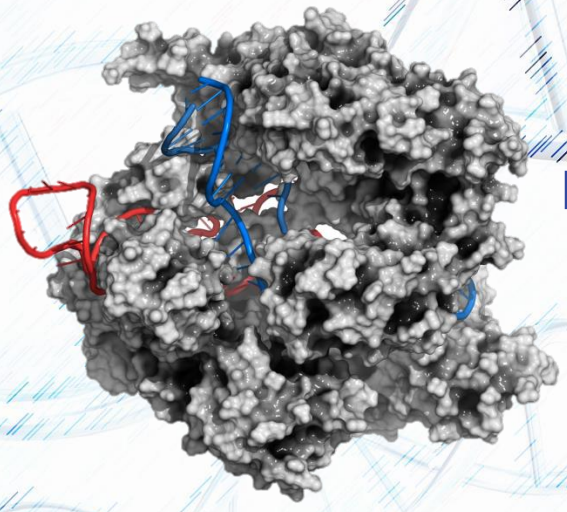
MAXYGEN

Diversity to drive protein engineering

Molecular Breeding



Directed Evolution

CMV Promoter Variant Panel

Maxygen's CMV promoter variant panel offers modified sequences with reduced size and complexity

- Maxygen's library technology was utilized to create a panel of CMV promoter variants
- These variants range in size from the standard 601 bp down to as small as 279 bp
- Reduced lengths minimize overall plasmid size and facilitate use in applications with size constraints, such as AAV vectors
- The standard CMV promoter is rich in repetitive and complex sequences, hindering a simple synthesis approach
- Maxygen's CMV panel includes options with zero to low sequence complexity, streamlining a synthetic work flow, such as for linear DNA assembly

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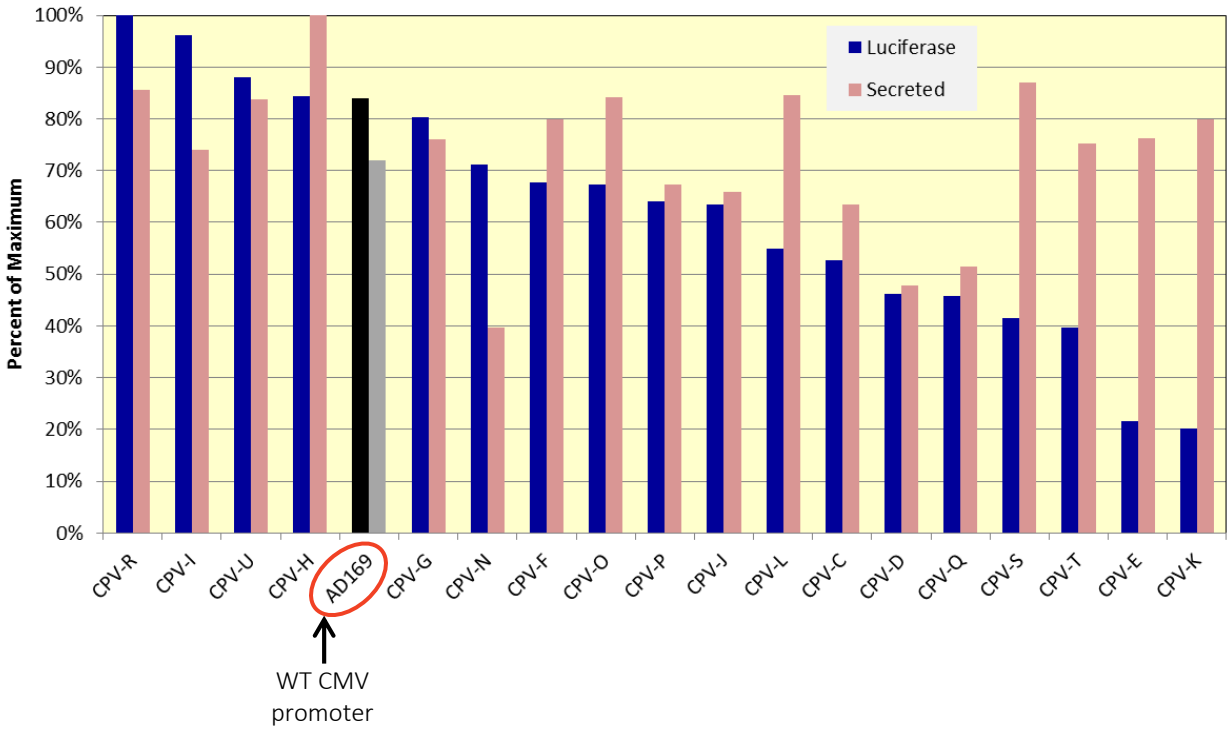
CMV Promoter Variant Panel

Maxygen's CMV variants were cloned along with either the firefly luciferase reporter gene or a secreted protein sequence

To test functionality of the CMV promoter variants, HEK293A cells were transfected with each set along with the standard AD169 CMV

A subset was identified that showed varying levels of expression for both

Two variants for luciferase expression and six for the secreted protein show >10% increase in expression as compared to the WT CMV promoter



Promoter	Size (bp)	Complexity
AD169	*601*	*High*
CPV-C	342	High
CPV-D	336	High
CPV-E	408	None
CPV-F	465	Low
CPV-G	464	Low
CPV-H	466	Low
CPV-I	465	Low
CPV-J	465	Low
CPV-K	408	None
CPV-L	601	Moderate
CPV-N	279	None
CPV-O	461	Low
CPV-P	408	None
CPV-Q	522	High
CPV-R	633	High
CPV-S	601	High
CPV-T	408	Low
CPV-U	521	High

MAXYGEN

725 San Aleso Ave Ste 2
Sunnyvale CA 94085
service@maxygen.com
www.maxygen.com