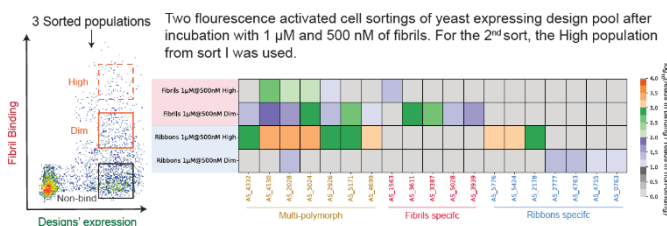


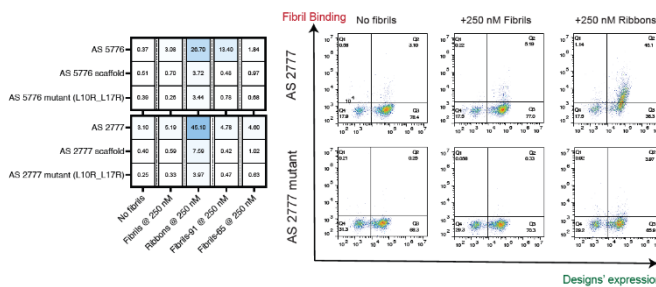
Specific mini protein binders specific for alpha Synuclein fibrils

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Deep sequencing analysis revealing designs' binding profiles



Individual design validation



Ref. Nr

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Keywords

alpha synuclein, binders, polymorphism, Parkinson disease; diagnostic, genotyping

Intellectual Property

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Description

De novo mini-protein binders that selectively recognize aSyn fibrils, developed through a tailored protein design pipeline (AmyBind). These binders are targeting polymorph-specific surface pockets binding parallel to the fibril axis.

The binders are specific for aSyn fibrils, with no binding to fibrils of other amyloid proteins or to non-fibrillar forms of aSyn. A binder from the group discriminating between distinct wild-types. the mini-protein binders have been experimentally validated for specific binding to aSyn fibrils and tested in functional assays.

The binders do not alter aSyn aggregation kinetics either in vitro or in PD-like cellular models, consistent with their intended binding mode. Moreover, in PD-like cellular models, the binders exhibit conformation-specific co-localization with targeted fibril polymorphs. These findings provide

validation of both target specificity and polymorph selectivity in biologically relevant environments

Advantage

first demonstration of fibril- and polymorph-selective binding

Applications

- research reagents
- diagnostics of PD (Parkinson disease) subtypes
- Therapeutics of PD and related disorders
- therapeutic leads for PD and related disorders