

Datasheet: TZC001

**BATCH NUMBER 164878**

|                      |                     |
|----------------------|---------------------|
| <b>Description:</b>  | SpyCatcher2         |
| <b>Name:</b>         | SPYCATCHER2         |
| <b>Format:</b>       | Catcher             |
| <b>Product Type:</b> | Recombinant Protein |
| <b>Quantity:</b>     | 1 mg                |

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

|             | Yes | No | Not Determined | Suggested Dilution |
|-------------|-----|----|----------------|--------------------|
| Immunoassay | ▪   |    |                |                    |

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

|                                       |                                                                                         |
|---------------------------------------|-----------------------------------------------------------------------------------------|
| <b>Target Species</b>                 | Protein/peptide tag                                                                     |
| <b>Product Form</b>                   | SpyCatcher2 purified recombinant protein - liquid                                       |
| <b>Preparation</b>                    | Recombinant protein expressed in <i>E. coli</i> and purified by affinity chromatography |
| <b>Buffer Solution</b>                | Phosphate buffered saline                                                               |
| <b>Preservative Stabilisers</b>       | 0.0095% MIT                                                                             |
| <b>Approx. Protein Concentrations</b> | 250 µM (3.9 mg/ml)                                                                      |

**Product Information** **SpyCatcher2** (H-SpyC2) is a 15.7 kDa protein that forms a stable covalent isopeptide bond with a second protein that includes a SpyTag. The reaction occurs spontaneously on mixing, is rapid, irreversible, high-yielding and shows good specificity. SpyCatcher2 contains a His6-tag at the N-terminus. To avoid deamidation of asparagine, a N105D mutation was introduced ([Hentrich et al. 2020](#)).

The reaction is robust at pH 5 to 8, at temperatures from +4°C to +37°C, in various buffer conditions (Ca<sup>2+</sup>/Mg<sup>2+</sup> not needed) and in the presence of detergents. The reaction also occurs inside cells (*in vivo*). Since the speed of the coupling reaction is concentration dependent, it is recommended to use SpyCatcher2 undiluted.

All the different formats of SpyCatcher2 are compatible with Bio-Rad's recombinant HuCAL® antibodies with a SpyTag2 at the C-terminus of the heavy chain.

[Download SpyCatcher coupling protocol](#)

SpyCatcher2 (TZC001) is available as a modified version, SpyCatcher2-CYS (TZC001CYS), which contains a cysteine residue for site-specific conjugation by the user.

SpyCatcher2-CYS can dimerize during storage by formation of a disulfide bond via the free cysteines. Before conjugation to these cysteines, the SpyCatcher2-CYS dimers should be mildly reduced e.g., by addition of 5mM DTT and incubation for 1 hr at room temperature, followed by a fast DTT removal step, e.g., by size exclusion chromatography using PD-10 desalting columns, as DTT can interfere with the subsequent conjugation chemistry. Dialysis is not recommended for DTT removal, as the cysteines can oxidize again during this slow process.

[View all available Catchers](#)

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|---------------------------------|--------------------|
| <b>Protein Molecular Weight</b> | Predicted 15687 Da |
|---------------------------------|--------------------|

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|               |                                                                                                 |
|---------------|-------------------------------------------------------------------------------------------------|
| <b>Purity</b> | ≥90% determined by SDS-PAGE under reducing conditions and visualized by coomassie blue staining |
|---------------|-------------------------------------------------------------------------------------------------|

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|-----------------------------|---------------------------------------------------|
| <b>Instructions For Use</b> | <a href="#">View SpyCatcher Coupling Protocol</a> |
|-----------------------------|---------------------------------------------------|

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|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage</b> | Store at -20°C only.<br>Storage in frost-free freezers is not recommended.<br>This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the protein. Should this product contain a precipitate we recommend microcentrifugation before use. |
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| <b>Guarantee</b> | 12 months from date of despatch |
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|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acknowledgements</b> | This product and/or its use is covered by claims of U.S. patents, and/or pending U.S. and non-U.S. patent applications owned by or under license to Bio-Rad Laboratories, Inc. See <a href="http://bio-rad.com/en-us/trademarks">bio-rad.com/en-us/trademarks</a> for details. |
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|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Health And Safety Information</b> | Material Safety Datasheet documentation #20480 available at: <a href="https://www.bio-rad-antibodies.com/SDS/TZC001">https://www.bio-rad-antibodies.com/SDS/TZC001</a><br>20480 |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|---------------------|----------------------------------------------------------------------------------------|
| <b>Licensed Use</b> | For <i>in vitro</i> research purposes. Any re-sale in any form or any other commercial |
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application needs a written agreement with Bio-Rad.

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**Regulatory**

For research purposes only

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## Related Products

### Recommended Useful Reagents

[SpyCatcher2:Biotin \(TZC001B\)](#)

[SpyCatcher2-CYS \(TZC001CYS\)](#)

[SpyTag3 PEPTIDE \(BLP086\)](#)

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To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://bio-rad-antibodies.com/datasheets)

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