

Datasheet: TZX009

**BATCH NUMBER 170846**

|                      |                          |
|----------------------|--------------------------|
| <b>Description:</b>  | HUMAN IgG1-FcSpyCatcher3 |
| <b>Name:</b>         | HUMAN IgG1-FcSPYCATCHER3 |
| <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>                   | FcSpyCatcher3 purified recombinant protein, fused to the hinge region, CH2, and CH3 of human IgG1 - liquid                                                                                                   |
| <b>Preparation</b>                    | Recombinant protein expressed in mammalian cell line and purified by affinity chromatography                                                                                                                 |
| <b>Source</b>                         | HKB-11                                                                                                                                                                                                       |
| <b>Buffer Solution</b>                | Phosphate buffered saline                                                                                                                                                                                    |
| <b>Preservative Stabilisers</b>       | 0.0095% MIT                                                                                                                                                                                                  |
| <b>Approx. Protein Concentrations</b> | 80 µM (6.2 mg/ml)                                                                                                                                                                                            |
| <b>Product Information</b>            | <b>Human IgG1-FcSpyCatcher3</b> (hIgG1-FcSpyC3) contains a SpyCatcher3 ( <a href="#">Keeble et al. 2019</a> ) fused to the hinge region, CH2 and CH3 of human IgG1 ( <a href="#">Hentrich et al. 2020</a> ), |

resulting in a 77.2 kDa protein for the disulfide-bridged dimer. Each SpyCatcher3 subunit can form 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. 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 hIgG1-FcCatcher3 undiluted.

Human IgG1-FcSpyCatcher3 is compatible with Bio-Rad's recombinant HuCAL antibodies with a SpyTag2 at the C-terminus of the heavy chain. It is available purified ([TZC009](#)) or conjugated to biotin ([TZC009B](#)).

[Download FcSpyCatcher coupling protocol](#)

[View all available Catchers](#)

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Protein Molecular Weight</b>      | Predicted 77166 Da                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Purity</b>                        | ≥90% determined by SDS-PAGE under reducing conditions and visualized by coomassie blue staining                                                                                                                                                                                                                                                                                                                                              |
| <b>Instructions For Use</b>          | <a href="#">View FcSpyCatcher Coupling Protocol</a>                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>References</b>                    | <ol style="list-style-type: none"> <li>1. Keeble, A.H. <i>et al.</i> (2019) Approaching infinite affinity through engineering of peptide-protein interaction. <a href="#">Proc Natl Acad Sci U S A. 10: 116 (52): 26523-33.</a></li> <li>2. Hentrich, C. <i>et al.</i> (2021) Periplasmic expression of SpyTagged antibody fragments enables rapid modular antibody assembly. <a href="#">Cell Chem Biol. 28 (6): 813-824.e6.</a></li> </ol> |
| <b>Storage</b>                       | <p>Store at -20°C only.</p> <p>Storage in frost-free freezers is not recommended.</p> <p>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.</p>                                                                                                                                           |
| <b>Guarantee</b>                     | 12 months from date of despatch                                                                                                                                                                                                                                                                                                                                                                                                              |
| <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.                                                                                                                                                               |
| <b>Health And Safety Information</b> | Material Safety Datasheet documentation #20480 available at: <a href="https://www.bio-rad-antibodies.com/SDS/TZC009">https://www.bio-rad-antibodies.com/SDS/TZC009</a>                                                                                                                                                                                                                                                                       |
| <b>Licensed Use</b>                  | For <i>in vitro</i> research purposes. Any re-sale in any form or any other commercial application needs a written agreement with Bio-Rad.                                                                                                                                                                                                                                                                                                   |

## Related Products

### Recommended Useful Reagents

[HUMAN IgG1-FcSpyCatcher3:Biotin \(TZC009B\)](#)

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

**Product inquiries:** [www.bio-rad-antibodies.com/technical-support](http://www.bio-rad-antibodies.com/technical-support)

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

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